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(Insert Forward)

July 2005

Dear Parents and Family Members,

Since the establishment of the Universal Newborn Hearing Screening program on July 1, 2000 many babies have been identified with hearing loss. With this identification, the babies and family members have received early intervention, involving various specialties, such as auditory development, language development, social/emotional development, cognition development, and meeting role models. The ultimate goal of this program has been to educate and empower the parents in being successful life-long case managers.

The Family Resource Guide you have in your hands is to give you an overview and a frame of reference as you begin your journey of learning, searching, inquiring, and making comfortable decisions for the most appropriate services for your child and family. This guide is written in a way that can present you with accurate, helpful and unbiased information, as well as opportunities for you to formulate good questions when seeking services. It is like a “parent notebook”.

This Guide was compiled by hearing and deaf parents and professionals, such as doctors, audiologists, and teachers. Naturally, the best sources of learning about the opportunities presented to you are by talking with parents who have deaf and/or hard-of-hearing children as well as deaf and/or hard-of-hearing adults. With this collection of information, you will become more comfortable in organizing your thoughts and listening to your intuition as a guide for what you hope to accomplish while raising your child.

Many parents refer to the Family Resource Guide often and then from time to time. It is also used as a refresher when checking for specific information. While this Guide is a great start, there are wonderful specialists and resources who are your partners as you go through this journey of new discoveries.

As a starting block, consider the following questions:

Dreams for our Child: _____

Concerns for our Child: _____

What I know about hearing loss: _____

What I want to know more about: _____

Last, but not least, enjoy your deaf or hard-of-hearing child! Warm wishes!

Indiana Hands and Voices Co –Chairpersons:

Jodee Crace

Lisa Kovacs

AUDIOLGICAL EVALUATION AND IDENTIFICATION PROCESS

As of July 1, 2000, every baby born in Indiana will have a hearing screening. For babies who do not pass the hearing screening, a series of hearing tests will need to be completed by an audiologist. Because hearing loss can have a significant impact on communication development, it is important to have your child's hearing thoroughly tested as soon as the possibility of hearing loss is suspected. No child is too young to have his/her hearing thoroughly evaluated. Many children who don't pass initial hearing assessments are later found to have normal test results or have medically treatable conditions. Other children, however, are born with permanent hearing losses that are not improved with medical treatment. Early detection of hearing loss combined with early intervention provides these children the greatest opportunity to develop language.

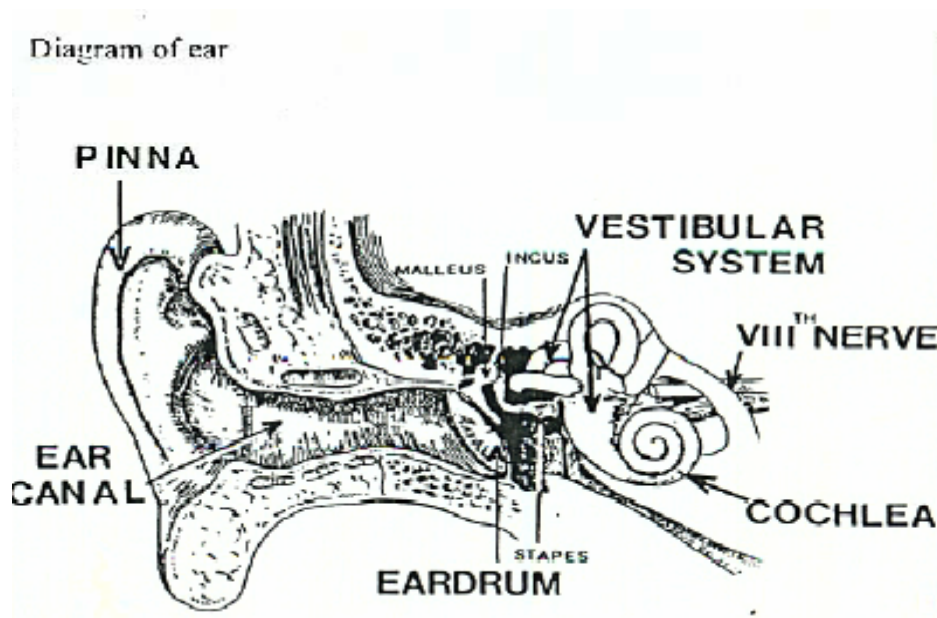
WHAT IS NORMAL HEARING?

Before we talk about hearing loss or how we test for it, it may be helpful to know how the ear works. The auditory system consists of very small structures arranged inside the ear in a space not much larger than a fingernail. There are four parts of the hearing system: (a) outer ear, (b) middle ear, (c) inner ear, (d) brain and brainstem.

- **The outer ear** is the part we see (pinna) and includes the ear canal. The ear canal is like a tunnel and ends at the eardrum or the tympanic membrane.
- **The middle ear** contains the eardrum and three tiny bones called the malleus (hammer), incus (anvil) and stapes (stirrup). These bones form a small bridge that span across the space of the middle ear. Running from the middle ear cavity in the back of the throat is the Eustachian tube.
- **The inner ear** is made up of the snail-shaped structure of hearing, the cochlea, which is filled with fluid and thousands of little hair cells, which connects to the main nerve. The semi-circular canals that control balance are also part of the inner ear.
- **The brainstem and brain** process patterns of vibration and interpret these as sound.

Sound travels from the sound source through the ear to the brain. Something must vibrate for sound to occur. When it vibrates, air molecules push on the eardrum. When the eardrum moves back and forth, it moves the three little bones back and forth. As these bones move, they push on the oval window of the cochlea. The cochlea is filled with fluid and has thousands of tiny nerve cells in it. As the bone pushes the fluid in the cochlea back and forth, the nerves are stimulated in a certain pattern. The nerves join together into one large nerve in the brainstem that carries the pattern into the brain.

Sounds vary in frequency (pitch) and intensity (loudness). The human ear can detect a wide range of frequencies (20 to 20,000 Hz) and intensities (0 to 130 dB). The most important sounds are the ones within the speech range (250 to 8000 Hz) and these are the ones most typically tested. Children with normal hearing can detect sound across this frequency range within -10 to 15 dBHL.



The Outer Ear is the part that we see and includes the ear canal. The ear canal is like a tunnel and ends at the eardrum or tympanic membrane.

The Middle Ear contains the eardrum and three tiny bones called the malleus (hammer), incus (anvil), and stapes (stirrup). These bones form a small bridge that hangs across the middle ear space.

The Inner Ear is made up of the snail-shaped structure of hearing, the cochlea, which is filled with fluid and thousands of little hair cells, which connect to the main auditory nerve and the semi-circular canals that control balance.

WHAT IS HEARING LOSS?

A problem in any of the three parts of the ear can prevent sound from going through the ear to the brain causing hearing loss. Hearing loss can be permanent or temporary. A series of tests are done to determine the type, degree and possible cause of hearing loss. Hearing loss is described as any one of three general types: conductive, sensorineural or mixed, depending on where it occurs along the outer, middle or inner ear.

A conductive hearing loss occurs when sound cannot travel (or be conducted) through the auditory system due to a problem in the outer or middle ear. The degree of hearing loss due to conductive involvement can range from minimal to moderate.

Possible causes: If there is a problem in the **outer ear** (wax blockage in the canal or the pinna and /or canal fail to develop), sound cannot travel through normally. Problems in the **middle ear** can be a result of fluid or infection behind the eardrum, a problem with the three tiny bones in the middle ear or a perforation in the eardrum. Typically, conductive hearing losses are medically treatable. Conductive losses due to ear infections or fluid in the middle ear can fluctuate. Therefore, it is important to monitor these conditions regularly.

A sensorineural hearing loss is a problem in the inner ear or the cochlea, or the auditory nerve. The sensory nerves may be damaged or missing. This type of loss can range from mild to profound.

Possible causes: Some of the things that can cause damage to the cochlea are genetic conditions, birth complications (such as extreme prematurity, respiratory distress, hyperbilirubinemia) viral infections (such as CMV, German Measles), serious illness (such as spinal meningitis), certain strong antibiotic drugs, or rh incompatibility. When sensorineural hearing loss is caused by damage to the hearing mechanism before birth, the hearing loss is referred to as **congenital**. The most common form of congenital sensorineural hearing loss is genetically transmitted hearing loss. This means that hearing loss may “run in the family” or the combination of the mother’s and father’s genes resulted in a child who is deaf or hard of hearing. While 50% of children with congenital hearing loss have genetic bases, 50% of congenital hearing losses occur from other causes. In many cases, it is not known why a child is deaf or hard of hearing and we say the cause or etiology is unknown. Included under the classification of sensorineural hearing loss is **auditory neuropathy**. Auditory neuropathy is a condition in which the cochlea appears to function normally but there is a problem with the main auditory pathway so that sound cannot be processed normally by the brain. Auditory neuropathy can be described as a lack of synchronous activity in the auditory nerve. Audiological tests often show normal Otoacoustic Emissions (OAE) and an abnormal or missing Auditory Brainstem Response (ABR). A child with auditory neuropathy may appear to hear one day and not hear the next. These children often require a different management approach to their auditory and communication problems, than children with peripheral hearing loss.

Acquired hearing loss can develop anytime after birth.

Possible causes: Children may be born with normal hearing but acquire hearing loss later in childhood due to trauma, illness or infection. Risk factors include a family history of permanent childhood hearing loss, congenital infections during or following pregnancy, certain medications and other medical conditions or traumatic injury.

A mixed hearing loss may result if there are problems in both the middle and inner ear. The conductive problem in the middle ear may be medically treatable. A mixed loss can range from mild to profound in degree.

Hearing loss can be either unilateral (hearing loss in only one ear) or bilateral loss (hearing loss in both ears)

A unilateral hearing loss can be identified early through the universal hearing screening program. Until UNHS children with unilateral hearing loss typically were not identified until they were in school. The effects of a unilateral hearing loss on speech and language development are typically not as severe as the effects of a bilateral hearing loss, however some children may be at risk for speech and language delays and/or academic challenges. Children with unilateral hearing loss should be closely followed as they are at risk for developing hearing loss in the other ear.. Children with hearing loss in one ear may have difficulty in finding sounds when they occur. It may be more difficult for them to understand speech in a noisy situation and they may tire more quickly. Personal hearing aids or classroom amplification systems may be recommended.

Possible causes: Any of those mentioned above.

Otitis Media

Otitis media is a medical term that means inflammation or infection in the middle ear. Fluid in the middle ear is usually (but not always) found with this condition. This is one of the most common reasons for visit to the doctor. Symptoms may include fever, ear pulling, crying, and not paying attention. It often begins with an upper respiratory infection or cold. It may clear up on it's own. If otitis media does not go away or happens frequently treatment may include antibiotics and/or the placement of tympanostomy tubes (a short surgical procedure). Mild or moderate hearing loss is common when fluid is present. The hearing may fluctuate or change. This means the child doesn't hear sounds consistently and can affect the child's ability to listen and talk.

DEGREE OF HEARING LOSS

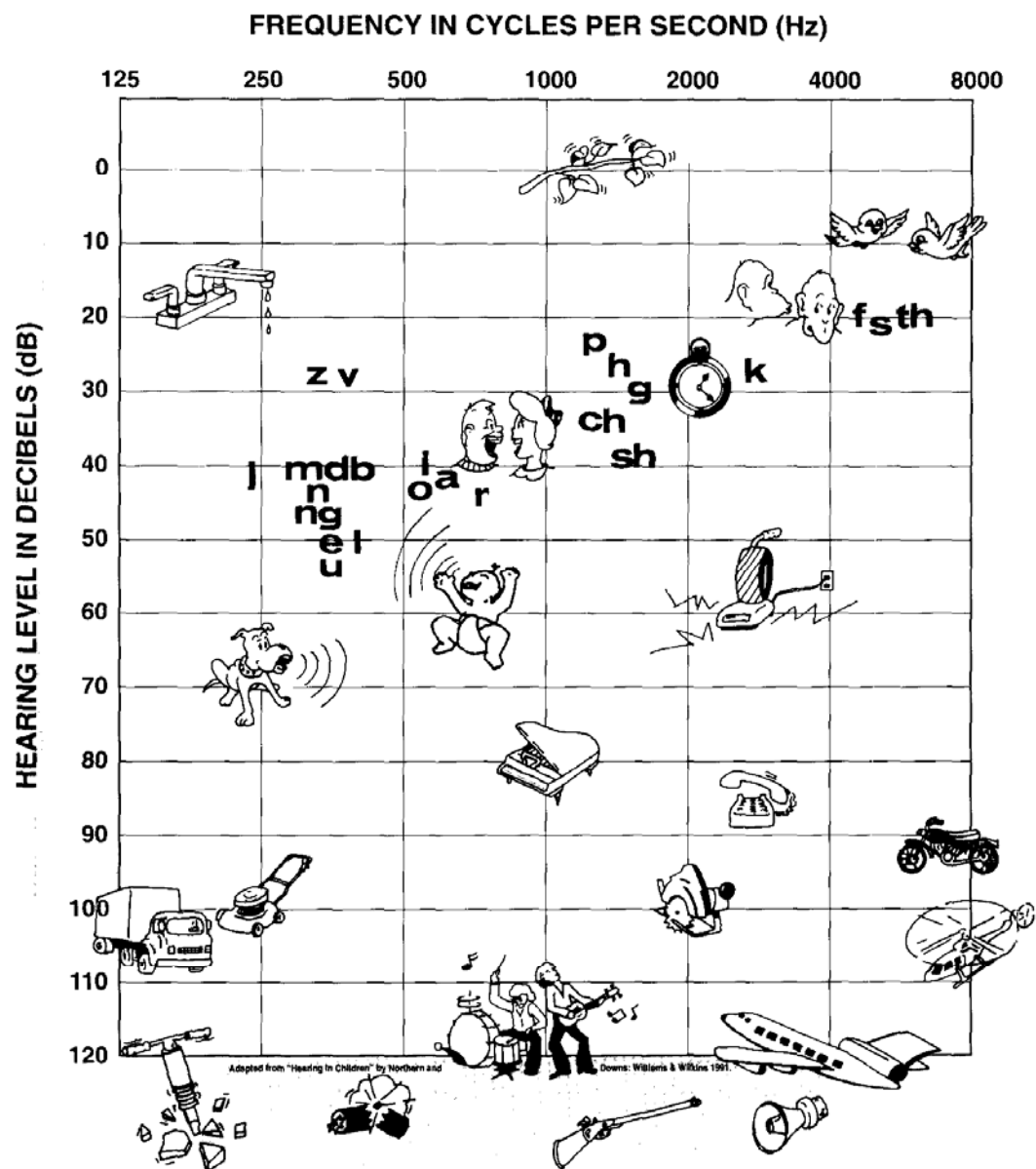
Hearing loss, whether conductive, sensorineural or mixed can range in degree from mild to profound.

The audiogram (see page 8) is useful for differentiating the type, degree and configuration of hearing loss. It represents a graph of the quietest presentation of sound that a person can hear (threshold) at various frequencies. The hearing threshold is measured in decibels (dB) and the frequency is measured in Hertz (Hz). Response levels can range in intensity (loudness) from -10 to 120 decibels and in frequency (pitch) from 125 to 8000 Hertz. Results toward the bottom of the audiogram indicate a greater degree of hearing loss. The right and left ears are evaluated separately to determine whether hearing loss is unilateral (one ear) or bilateral (both ears). Comparing audiograms over time can help alert to changes in hearing. The following classification system is a general guide to degree of severity of hearing loss:

0-20 dB	Normal
21-40 dB	Mild Hearing Loss
41-55 dB	Moderate Hearing Loss
56-70 dB	Moderately-severe Hearing Loss
71-90 dB	Severe Hearing Loss
>90 dB	Profound Hearing Loss

The audiogram on page 8 also shows the intensity and frequency region of various sounds of speech and different sounds heard in the environment. It will be helpful for you and your audiologist to plot your child's hearing levels on this audiogram. This should give you a better understanding of how your child's hearing relates to the variety of speech and environmental sounds.

AUDIOGRAM OF FAMILIAR SOUNDS



AMERICAN
ACADEMY OF
AUDIOLOGY



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WHAT DO WE DO NEXT?

You may choose to access services through providers in hospitals, clinics or private practice. Some of these providers may also participate in Indiana's early intervention program, **First Steps**. First Steps is a family-centered, coordinated system that provides early intervention services to infants and toddlers with disabilities or who are at risk for delays. Financial assistance is available for evaluations and services to Indiana families who choose to participate in First Steps. You may wish to ask your primary care physician and an intake coordinator from First Steps about potential providers in your area that have experience evaluating hearing in infants and young children. Whether you choose services through First Steps or through private providers, this information is intended to help you find professionals who are competent. You should feel comfortable with the providers working with your family and be confident in them as you learn more about your child's hearing.

WHAT PROFESSIONALS MAY BE INVOLVED IN THE EVALUATION AND ASSESSMENT PROCESS?

Primary Care Physician: This medical professional provides your baby's on going care and is referred to as your child's "medical home". He or she may provide you with appropriate referrals to other medical personnel. All test results and recommendations should be shared with your primary care provider.

Audiologist: Audiologists are professionals with a master's or doctoral degree and in-depth education in the identification, assessment and non-medical treatment of hearing disorders. They conduct a battery of tests to determine the type and degree of hearing loss. He/she will also evaluate and monitor amplification devices to be sure optimal benefit is being provided. Audiologists also provide families with information, skills and support related to enhancing their child's development.

Otolaryngologist or Otologist: This professional is a medical doctor who specializes in the problems of the ear, nose and throat, sometimes referred to as an ENT doctor. This doctor will examine your child to see if the hearing loss is medically treatable and perhaps recommend additional testing. If the hearing loss is not medically treatable, this doctor provides medical clearance order that your child can be fit with hearing aids or other appropriate amplification device by an audiologist.

First Steps Intake Coordinator: If you chose to participate in Indiana's early intervention program, First Steps, this professional is your initial contact with the program. The intake coordinator will help you enroll in First Steps and inform you of your choices of service providers.

HOW DO I FIND AN AUDIOLOGIST?

Testing an infant or young child is a specialty. Specialized tests are available to assess hearing even in very young infants.

You will want to find an audiologist who has experience working with infants and children. You will also want to know what kinds of tests are available and what they measure. Not all tests can be done with your child at one time. Different tests may be used at different ages or to provide information about a specific aspect of your child's hearing. You will learn more over time. It may take numerous visits before all the information is complete to determine the specific details of your child's hearing loss. Because the audiologist is often a vital part of your child's and family's support team, you will want to make sure that he or she will work closely with you and does not mind answering your questions. Here are some questions you may want to ask the audiologist:

- How much experience do you have testing children?
- How much experience do you have fitting infants with hearing aids?
- How soon do you recommend fitting hearing aids for a deaf or hard of hearing child?
- Will you be able to direct me to community resources and other professionals who work with children who are deaf or have hearing loss?
- Will you help me contact other families with young children who are deaf or have hearing loss?
- Are you able to provide me with objective information about the range of options for my child?

WHAT TYPES OF HEARING TESTS MAY BE USED?

There are many kinds of hearing tests, and each one serves a different purpose. Each test gives the audiologist specific information. A battery or combination of tests is required to provide the most accurate description of your child's hearing loss. The following is an introduction to some of the most commonly used hearing tests. Always feel free to ask to have the tests and the results explained to you.

Auditory Brainstem Response (ABR) or also known as ***Brainstem Auditory Evoked Response (BAER)*** is an objective test that is done while a child is asleep. Electrodes are placed on the child's head and measure the auditory nerve's response to sound. It doesn't hurt the baby at all. The reading is on a computer print out. It differs from the screening ABR by measuring different loudness levels and different pitches to determine exactly how much of a hearing loss is present .

Otoacoustic emissions (OAE): This test is used to determine the function of the cochlea by measuring echoes from the inner ear using a small probe tip placed in the ear canal. It is painless, does not require the child to respond and gives useful information at several frequencies. OAEs are not observed in ears with greater than a mild hearing loss.

Behavioral observation audiometry: This test examines the child's behavioral response in a sound booth. The audiologist will present a variety of sounds ranging from low pitch to high pitch and from soft to loud, out of the child's sight and observe for signs of auditory responsiveness.

Impedance audiometry (tympanometry): This test is used to measure the ability of the middle ear to conduct sound to the inner ear. This is not a test of hearing, but a test of the status of the eardrum and middle ear system. It can determine middle ear pressure, eardrum mobility, Eustachian tube function, and continuity and mobility of the middle ear bones. This information can be useful to the doctor in determining whether a middle ear problem exists, which may require medical treatment. For infants younger than 4-6 months of age, a high frequency probe tone (1000 Hz) should be utilized to get the most accurate results.

Acoustic Reflexes: The stapedial muscle in the middle ear contracts in the presence of a loud tone or noise. The level at which the reflex is present (or if it is absent) gives information about the type and degree of hearing loss. This is done using the tympanometer and does not require your child to do anything.

Questions you may want to ask when your child's hearing is being tested:

- What does this test measure?
- What part of the ear is being tested?
- Will this test be able to tell me different pitches my child can hear?
- Will this test tell us the cause of the hearing loss?
- How does this test work?
- Why is this test being completed at this time?
- What do the results mean?

Test results should be explained to you by the examiner who will share them with your child's primary care provider and ENT (ears, nose and throat doctor).

WHAT ARE THE BARRIERS TO COMPLETING THE DIAGNOSTIC PROCEDURES?

- *Most of the procedures require a quiet infant/child. If the child is restless or fussing, it can prevent accurate readings from being obtained.
- *If the child is experiencing outer or middle ear problems (wax, fluid, infection, etc.), it can elevate thresholds and complicate interpretation of test results. (i.e. determining what degree of loss is conductive vs. sensorineural).
- *If the child is scheduled for the ABR, which requires him/her to sleep, and the child does not soundly sleep or is very restless in his/her sleep, accurate ABR thresholds may not be obtainable.
- *If the infant has other health issues, which require more immediate medical attention, diagnosis of hearing status may need to be delayed.
- *It is important that all pre-test instructions given to the parent be followed in order to increase the chances of a successful test battery being completed.

AFTER THE DIAGNOSIS:

Medical Follow-Up

All children who are identified with a hearing loss should see an otolaryngologist (ear, nose and throat or ENT physician). Your pediatrician, family doctor or audiologist can refer you to this specialist. The otolaryngologist can answer your questions about the cause, discuss medical or surgical treatments and other health conditions that your child has or may be at risk of developing.

The evaluation may include: a thorough medical and family history/ a physical examination, an examination of the child's ears, referral for genetic testing to learn whether other children in the family may be at risk for hearing loss, a CT scan of the temporal bones, tests of kidney function and a referral to an ophthalmologist (eye doctor) since many children with hearing loss also have vision disorders.

Genetic Professionals:

All families with a baby identified with hearing loss should be offered a referral for genetic counseling, evaluation and services. They may be able to help identify the cause of hearing loss, associated medical conditions and the risk for hearing loss in other members of the family.

Early Intervention

After a hearing loss has been confirmed, you will be advised of follow up early intervention services necessary to maximize your child's development. These may include services from a speech therapist, developmental therapist, educators specializing in hearing loss, a parent advisor or other early intervention therapists.

Important decisions regarding your child's future will need to be made as you gather information and seek consultation with professionals trained in the management of hearing loss. These may include use of an amplification device (hearing aids, cochlear implant, or assistive listening device) communication options, and educational considerations. These issues will be further discussed in upcoming sections of this manual.

Remember, it is a journey, not an ending. Your positive attitude will influence the child's emotional development. Parents generally experience a wide range of feelings including, anxiety, confusion, or sadness. These feelings are normal and temporary. Hearing parents of children with hearing loss, often have difficulty understanding deafness. It may be a slow process since most parents have never known a deaf person before. 90% of parents of deaf children are hearing.

Unlike hearing parents, parents who are deaf typically do not experience adjustment difficulties when their child is diagnosed with a hearing loss. In fact, deaf parents often prefer having a deaf or hard of hearing child since parents naturally feel more comfortable with a child who can share their same language. Approximately 90 percent of deaf parents have hearing children. They also experience the feelings associated with change and adjustment similar to what hearing parents of a deaf child experience.

Parents not only need to adapt to the hearing loss in their family, but also to others' expectations, and often conflicting opinions of professionals, and controversies about educational methods. Learning the facts is important. You can ease your adjustment time with accurate knowledge and information. (Adams, 1997)

EARLY INTERVENTION

The Universal Newborn Hearing Screening program goals are to identify all infants with hearing loss by three months of age and to begin early intervention for infants with hearing loss by six months of age. Children under three years of age with identified hearing loss are among those eligible to receive early intervention services through the state's early intervention program.

WHY IS EARLY INTERVENTION IMPORTANT?

The first few years of life are generally recognized as a critical period for language learning. Without an opportunity to learn language, children who are deaf or hard of hearing will fall behind their peers in language, thinking skills, and social/emotional development. If hearing loss is detected early, intervention services can begin early and there is a better chance that an infant will develop at the same pace as his/her peers. In order to achieve this outcome, the focus of early intervention must be on assisting the infant in establishing communication.

Research has shown that children who receive early intervention before six months of age perform ahead of children whose hearing loss was identified much later and who did not receive early intervention. Left undetected, a hearing loss, or even a hearing loss in one ear, can result in delays in language acquisition and poor performance in school. Research has also shown that the nature of cognitive development (ability to think and process information) is essentially the same for deaf and hearing children. If children have language either spoken, sign or both, then they can reach their potential.

HOW CAN I LOCATE EARLY INTERVENTION SERVICES?

Early intervention services are available through many different programs and systems supported by a number of different funding sources. The service system a family accesses depends on the eligibility requirements for a program and the family's needs and priorities. Some early intervention and healthcare programs have financial eligibility requirements. To simplify the application process for families, each county has a System Point of Entry (SPOE) where families can apply for multiple social service options like Hoosier Healthwise, Children with Special Health Care Services, and First Steps Early Intervention Services. Your health care provider can refer you to the local System Point of Entry in your community or you can contact the state First Steps office at 1-800-441-7837 (v/tty) for the SPOE nearest you. If you have access to the internet, you can find out all about First Steps and find your SPOE at http://www.in.gov/fssa/first_step/

WHAT IS FIRST STEPS?

In Indiana, First Steps is the statewide, family-centered, coordinated system to serve children from birth to three years of age who have or are at risk for developmental delays. Any family, regardless of income level, with a concern about the development of their infant or toddler is entitled to an **evaluation and assessment** to determine eligibility. The Eligibility Determination Team involves individuals who can evaluate records and information in response to the parents' area(s) or concern, such as language or motor development. The team may include the family physician or other professionals who work with the child and family. The team, with written consent, reviews documentation and decides if the child is eligible or if additional information is needed to determine eligibility. If a child under the age of three has a specified developmental delay or medical condition likely to result in a delay (i.e. hearing loss), she or he is eligible for First Steps services. To support families in their natural care giving and nurturing roles, First Steps brings together the parents and health, education, and social services professionals to write the **Individualized Family Service Plan (IFSP)**. The IFSP is written for a year and is reviewed at least every six months. It includes your major goals for your child, how progress will be measured, what and where services will be provided, when they will begin and for how long, methods of payment and transition upon the child's third birthday to other appropriate programs including special education services.

First Steps is administered by the Bureau of Child Development, within the Division of Family and Children of Indiana's Family and Social Services Administration. The First Steps Council in your county works to identify current resources, coordinates available services, and develops new resources. First Steps Early Intervention Services are funded through a variety of state and federal programs.

WHAT SERVICES ARE AVAILABLE?

While Indiana's First Steps system includes a long list of potential services, the professionals who have expertise in working with children who have hearing loss include: Medical Specialists (Otologists or Otolaryngologists), Geneticists, Pediatric Audiologists, Speech/Language Pathologists, and Teachers of the Deaf and Hard of Hearing, and/or other early childhood specialists with training in working with children who have hearing loss. In the development of your child's IFSP, your Service Coordinator can help you determine the services that will help you achieve the outcomes you desire.

To provide those services, you will select people from the list of First Step providers, with the help of your Service Coordinator. Your service providers may include some or all of the professionals named above. You may prefer to select providers who have experience working with children with hearing loss and their families. You can access more than one service provider. For example, you may choose to have an audiologist who can assess your child's hearing and possibly fit him with hearing aids and have a teacher of the deaf or speech/language pathologist who can help you learn how to facilitate communication with your child using speech, sign language, or both. If after selecting services and service providers, you feel a change is needed please contact your service coordinator to discuss your concerns.

Other resources are available that can be utilized along with First Steps Early Intervention Services. Ask the Service Coordinator and look in the appendix of this guide for additional programs and services specializing in working with families and children with hearing loss.

WHAT IF WE NEED OTHER HELP FOR OUR CHILD?

If additional needs are identified for your child or family through the assessment process, other services are available. To help address outcomes related to these additional developmental needs, some possible services a family could receive include, but are not limited to, Assistive Technology, Diagnostic Medical, Genetics, Family Education, Health Education, Nursing, Nutrition, Physical Therapy, Occupational Therapy, Psychological Services, Social Work, Special Instruction, Transportation, and Vision Services.

In addition to identified early intervention services, you may find other services helpful. For families with children who have a hearing loss, some helpful services might include support for sign language classes, educational materials (video tapes or books), attendance at conferences, or respite care. If you ask your First Steps Service Coordinator, he or she can help you identify those services to meet your needs.

PARENTING THE CHILD WHO IS DEAF OR HARD-OF-HEARING

**All children need three types of inner resources if they
are to become self-disciplining people:**

1. Good feelings about themselves and others.
2. An understanding of right and wrong.
3. A fund of alternatives for solving problems.

**Twelve Strategies for Enhancing the Parent/Child Relationship and
Raising Children Who Will Be Self-Disciplined and Responsible Adults:**

1. Express Love.

Expressions of love can head off undesirable behavior. When a child feels loved, she wants to please her parents. A warm facial expression, a kind tone, a look of admiration and enthusiasm, a hug, all express love in an unmistakable way. Older children, who may be embarrassed by physical expressions, welcome the personal attention of a one-one-one game or special time with mom or dad.

2. Be Predictable.

Children thrive in a predictable environment. Routines and schedules carried out with consistency provide stability and security. This is also true with parenting behavior -- consistent messages and consistent, reasonable consequences result in a child who trusts his parents. And it can be especially important for some deaf or hard of hearing children who have limited communication skills.

3. Communicate Clearly.

Make sure your words and actions are sending the same message. Young children need to have things spelled out for them -- to teach an abstract concept like "sharing" use examples.

If there is a communication challenge because of deafness or hearing loss, acknowledge the need to purposefully develop strategies to close the gap. With a deaf or hard of hearing child, consider creating a 'quality control' test to make sure your message was understood as intended, including consequences. Have her repeat back what she understood you to say. Role-play to teach productive, appropriate questioning techniques that will be essential at home, at school, and everywhere.

4. Understand Problem Behavior.

By being good observers, parents can gather information that will help them understand what a child's problem behavior means. Look for a pattern. What happens before the behavior starts? When, where, and with whom does it occur? Is there a physical cause such as hunger or fatigue? Was the communication experience unsuccessful -- resulting in frustration, anger and lashing out? Does he feel threatened, hurried or ignored? Is the child seeking attention in an unappealing way? Is he having trouble expressing himself and projecting his negative energy in a physical way? Which is needed... punishment, or a shoulder to cry on?

5. Catch Your Child Being "Good."

It's easy to take for granted what we approve of, and hard to ignore what we don't like. This makes it easy to neglect opportunities to praise good behavior and focus on bad behavior. Let your child feel and see your approval. Turn 'no' statements into 'yes' statements, i.e. "I love how careful you're being with that antique vase."

6. Set Up a Safe Environment.

Children love to explore and thrive in tactile environments where things can be pulled on, climbed over, taken apart and put back together again (maybe). This isn't being naughty -- this is their nature. Make her environment safe. The more there are appropriate things available to explore the fewer problems with inappropriate behavior she will have. Consider how this applies to adolescents and even teenagers. A safe environment is one where the rules and limits are defined and understood. Can she have the car Friday night? Yes, if we know whom she's with, where she's going, and when she'll be back.

7. Set Sensible Limits.

Neither parents nor children want to live in a police-state atmosphere in which there are so many rules it's impossible to avoid breaking them. Generally, very young children can remember only a few rules and a great deal of adult supervision is required to enforce them. Make the language simple and direct, like: "Use words, No hitting."

The limits expand as the child grows older. Going outside established limits is an exercise in trust between parent and child. If your adolescent or teenager demonstrates responsible behavior, he should be rewarded with certain privileges. If he demonstrates a lack of responsibility, the limits may need to be more tightly drawn and defined until trust is built again.

8. Defuse Explosion.

Step in while your child is still calm enough to discuss a problem. Intervene before anger gets out of control. If certain situations are recipes for disaster, talk about them ahead of time and create some plans for coping and resolving. For deaf and hard of hearing kids, not being understood because of a communication mode difference or gap is a common occurrence, and one that lends itself to frustration and anger. Anticipate these kinds of circumstances. Often parents can help children avoid a meltdown with by pointing out problem-solving alternatives that can be employed before the problem rises to a crisis state.

9. Teach Good Problem Solving Skills.

There are good solutions to problems, and not-so-good solutions to problems. How do you get your child to know the difference? Start by clearly labeling unacceptable behavior and explain why. Follow up with positive suggestions for what to do next time. For children under four, it's best to simply state what you want them to do next time. For older kids who can express themselves and think abstractly, ask them what they could do next time that would be better. Suggest additional alternatives. As kids get older and mature, they'll be able to employ these tactics more successfully if they've been practicing them since childhood.

If the problem stems from communication gaps, which is often true for children with deafness or hearing loss, use the same strategies and exploit every opportunity to expand the child's language base around conflict resolution. Knowing how to express himself and state his position will increase your child's sense of empowerment to successfully solve problem

10. Don't Overreact.

Giving lots of attention to problem behavior can create another whole set of problems. Telling a child to go to a time-out place or removing her from the play area where she misbehaved delivers a consequence for bad behavior without creating an attention-getting incentive to do the thing again.

11. Seek Professional Help When Needed.

Most children grow out of common behavioral problems with the patient guidance of parents and other caring adults. But for a small percentage (5 to 15%) the problem behaviors persist and can become severe. Professional help is an excellent resource that can provide support and a constructive plan of action.

12. Be Patient with Your Child and Yourself.

Misbehavior happens. It's human nature to learn from our mistakes. And a key to the healthy psychological development lies in the child's ability to do just that. If you follow all 11 steps faithfully and still experience a repeat of bad behaviors, remind yourself that your child is in a learning process called childhood. Your consistency, patience and love will provide him or her with the support needed to emerge into mature, autonomous adulthood.

❖ By LEEANNE SEAVER, Hands & Voices National, with excerpts and adaptations from Thelma Harms Ph.D., University of North Carolina

As parents and caregivers you will become educated about your child's hearing as well as his/her own unique strengths. You will also be your child's best advocate. You will have to become familiar with services and opportunities available for your son or daughter to realize his or her full potential. Other parents of children with a hearing loss are available to offer support and information. You will meet many professionals to help you as well. As a parent and caregiver, you are the one constant in the midst of all the professionals and service providers you will encounter. The most positive outcomes are usually a result of strong participation by parents.

COMMUNICATION

HOW DOES HEARING LOSS AFFECT COMMUNICATION?

The affect of a hearing loss on communication depends on many factors such as the degree, type and the shape of the hearing loss. Other factors such as family commitment, the age when hearing loss is identified, the age at which intervention was provided and the child's overall general health also have an impact. Hearing loss in a child is very different than in an adult .An adult with hearing loss knows language and can fill in the gaps of information based on his prior use of the language. A child has not yet learned language. Even a mild hearing loss can affect a child's language and speech skills.

Your early intervention providers are available to help you as your child learns about communication and acquiring language, either signed or spoken, much like their hearing peers.

Language development is one of the major accomplishments to occur during the first three years of life. In this brief and "fast" time, children move from communicating needs nonverbally through crying, facial expressions, gestures, and body movements into communicating through Spoken English and/or Sign Language. During this critical period of language learning, children learn they are communicators and obtain their needs/wants. They acquire a vocabulary of hundreds of words and learn the rules for using them. They learn all this simply by being around adults and older children who communicate with them and encourage these efforts (turn-taking, stimulation). This in turn leads to literacy and empowerment skills.

HOW DOES LANGUAGE DEVELOP IN INFANTS AND TODDLERS?

Infants are born with unique ability to relate to other human beings. They come into the world ready to connect and communicate with their caregivers. Infants cry to communicate their needs. During the first few months babies gurgle, coo, squeal, and make facial expressions to get adult attention. Their faces brighten when they make eye contacts and obtain attention from their caregivers. As they get older, babies respond by smiling, kicking, waving/moving arms, and turning their heads to look at someone. By about 6-9 months, babies begin to babble in their "home language" (both beginning phases of signing/speaking). They also listen with their ears and eyes and respond accordingly. Before they are able to "talk" and/or "sign", they look at objects/people we label and make gestures (waving good-bye and hello upon leaving and returning).

The language infants/babies "hear" and "see" determines the "language connections" that are formed in their brains. In addition, infants/babies work hard in distinguishing sounds and signs. These attempts are reinforced by caregivers' attention, responses, and positive emotions. In addition, being surrounded by other native signed and/or spoken users enhance language competencies. Researches have indicated that Deaf and/or Hard of Hearing babies/children have the capabilities to acquire and use both spoken language and signed language.

Typically by 18 months of age, children have about 20 spoken and/or signed words in their vocabulary and continue to understand much more than they express. Between the ages of 2-3, they may have anywhere from 200 to 1000 signed and/or spoken words and use simple sentences.

As in all aspect of development, young children develop language at their own rates. Many factors influence how and when language develops. Individual differences are present from birth. Others depend on child's experiences with communication opportunities. Additional medical and cognitive abilities are additional factors that influence language development. It is important to keep a close monitoring of the child's language milestones and to respect the individual preferences.

Learning any language takes much practice. By showing pleasure and reinforcement in your child's communication, and talking/signing even when the child is "quiet", you continue to support your child in his/her desire to communicate.

You can refer to the Developmental Milestones on page 39 and the Auditory and Visual Language Milestones on page 41 as guides. Your providers can supplement this guide with resources, ongoing services, and modeling with other Spoken English and Sign Language users.

Language can be spoken, visual and/or written. Language enables us to communicate our needs, ideas, and emotions to each other. We depend on language for learning and growth opportunities. It allows us to think aloud, rehearse, memorize, and make sense of new concepts and new experiences. In turn, it gives us an opportunity to socialize and develop personal interests and abilities.

There are questions you can think, figure, process, and formulate while you are considering the opportunities how your child, identified with hearing loss, can use to foster language skills. With this skill, your child becomes a communicator and is empowered to make personal choices and decisions.

Questions for you:

1. How would you like your child to get information in a natural and least restrictive way?
2. How will the child be able to participate in communicating in a social setting?
3. What is your communication value?
4. What communication opportunities will empower your child to think, reason, read, write, solve problems, and be a self-advocate?

Observations of Your Child:

Residual Hearing
Vision
Gestures
Vocalizations
Temperament
Interactions

Factors that Influence Your Child:

Family Support
Bonding Process
Acceptance Level of Parents
Cognitive Skills
Language Competencies
Motor Skills

Ultimately, you, as the primary caregivers, will know you are providing appropriate opportunities when you see that your child is within the developmental milestones. The early intervention providers are available to provide support, resources, modeling, and mentors through this process.

Three Channels of Communication

1. Body Language
2. Tone and Modulation
3. Words

55% of the message is communicated through **BODY LANGUAGE**:

eye contact, smiling, scanning, facial expression, gesturing, pointing

38% of the message is communicated through **TONE** and **MODULATION**:

emotion, volume, tone, intention

7% of the message is communicated through **WORDS**:

signed, spoken, print (reading), listening, finger spelling

COMMUNICATION CHOICES

You will find that people have very strong feelings about communication methods. There are successful children and adults using each of the communication options. There is no one mode of communication that is right for every child. As parents, you are responsible for gathering information, thinking it over and determining the best communication approach for your family. The best way to decide on an approach to communication is to decide what will be best for your child and family. Be open about all the methods and language choices. Ask questions. Talk to adults who are deaf and hard of hearing and other families with children who have a hearing loss. Discuss, read, and obtain as much information as you can about the various methods.

Multiple communication methods have evolved over the last 200 years. For the purposes of this resource guide, six major categories of communication methodology are listed. Some have variations and subcategories so this list and the descriptions are not all inclusive. You should contact people who use these methods for more details about them. The availability of options, and the providers to support them, varies from community to community.

American Sign Language (ASL)

American Sign Language is a visual/spatial language. Like any language, ASL has its own vocabulary, idioms, grammar and syntax. ASL uses space, direction, speed of movement and facial expression to mark grammar and convey meaning.

Auditory-Oral

This method of teaching spoken language requires children to use their aided hearing in combination with lipreading. Although a portion of the speech therapy sessions may be presented using listening alone, this approach permits supplemental visual cues to promote optimal understanding of spoken language.

Auditory-Verbal

The primary emphasis of the auditory-verbal approach is on teaching the child to learn to listen and use their aided hearing to its fullest potential. Sign language is not used and lipreading is not directly emphasized. During individual therapy sessions, a certified auditory-verbal therapist (Cert. AVT) guides the parents in teaching their child to understand sound and spoken language, and to develop natural speech and language.

Bilingual Education

This method of education uses both a sign language (ASL) and an oral language in its written and spoken form when possible. This educational philosophy instructs children using ASL and teaches English through reading, writing, lipreading, speaking and listening, depending on the individual child's potential in each area. Deaf and hard-of-hearing children will be bilingual and bicultural to varying degrees.

CUED Speech

This system is designed to clarify lip reading by using simple hand movements (cues) around the face to indicate the exact pronunciation of any spoken word. Since many spoken words look exactly alike on the mouth (e.g. pan, man), cues allow the child to see the difference between them.

Total Communication

The term Total Communication was first defined as a philosophy that included use of all modes of communication (i.e., speech, sign language, auditory training, lipreading and finger spelling). Today the term Total Communication is commonly interpreted as Simultaneous Communication (signing while talking). This philosophy led to the formation of manual systems (e.g. Signing Exact English, Signed English) that represents spoken English and are used simultaneously with oral speech.

HOW DO WE CHOOSE A COMMUNICATION OPTION?

Often parents feel overwhelmed when considering an intervention program for their child. Gathering information about the resources that are available in your community and state will help you make decisions that are “right” for your child and your family. Ask for an explanation of each method from those who actually practice it. Understand which agency or professional is responsible for the different services you are interested in and contact them for information. If you don’t know how to contact them, ask for assistance from your physician, service coordinator or contact the Indiana HELP line 1-800-433-0746 voice or 1-866-275-1274 TTY. To locate certified or licensed providers in your area or throughout the state, refer to the resources listed in Appendix D. You may wish to access the First Steps central directory and provider information matrix at www.eikids.com. We encourage you to visit different programs and to see the methods in practice. As you visit the differing programs, it will be important to ask questions. Refer to page 24 for a list of suggested questions you may wish to ask potential service providers. It is important that you feel comfortable with the provider and the methods he or she uses. Feel free to ask for references and to interview providers. Do not be afraid or embarrassed by any questions you may have. The answers you receive will help you understand and compare the different services and communication methods. Once you understand the options, you can make a well-informed decision. Do not feel intimidated by professionals who are biased. Do not feel you have to make a decision quickly. Take time learn all that you need to so that you feel confident with the decisions you’re making.

As parents, you have a responsibility to make decisions that are in the best interest of the family as a whole. Some communication options require tremendous commitments in terms of time or financial resources. Clearly, a decision to use one particular method over another must be made after careful consideration of all available options and the resulting consequences for the entire family. It is always a good idea to assess your child’s progress frequently no matter which communication method you use. Sometimes it is necessary to modify or change your path to better meet your child’s and family’s needs. When looking at the method of communication for your child, ask two questions:

1. How is your child communicating for basic conversations?
2. How do they use language for thinking? (which will be most important in school.)

Factors to consider when choosing how to communicate with your child:

- ❑ Is the communication option chosen in the best interest of your child and family?
- ❑ Does it allow your child to have influence over his/her environment, discuss his/her feelings and concerns and participate in the world of imagination and abstract thought?
- ❑ Does the communication enable all your family to communicate with your child? If not, where can you get support for teaching family members how to communicate with your child?
- ❑ Does the communication enhance your child's relationship with other family members? It should promote enjoyable, meaningful communication among all family members and enable your child to feel part of your family and know what is going on.
- ❑ How is your child going to be able to communicate with peers and the community?
- ❑ Do you and your family understand the commitment this choice will require?
- ❑ Will my child arrive at school with language skills for thinking and learning to read?

The following pages and worksheets are intended to help you in your decision making process. You may wish to use them to document answers and record information you gather while visiting programs and meeting providers.

Provider Questions

(Duplicate and fill out for each provider you interview.)

- What experience do you have with children who have hearing loss? What are your licenses, certifications, and/or credentials?
- What is your philosophy regarding communication for a child with a hearing loss or who is deaf?
- What are the long-term goals of the services you recommend?
- How do you evaluate the effectiveness of your services?
- What is the parent's role when you provide services?
- How do you teach us to communicate with our child between visits? Will I be able to carry on activities with my child based on your suggestions or resources?
- What supports do you offer families?
- What is the impact of services on the siblings and extended family?
- What is your definition of success for children with hearing loss?

Notes About Our Experiences

What are our dreams for our child?

What are our fears for our child?

The following parents’ names and phone numbers were given to us:

Date: Name of Contact Person: at:

Date: Name of Contact Person: at:

Date: Name of Contact Person: at:

Date: Name of Contact Person: at:

We have visited the following programs or providers who can serve our child:

Program name:

Communication used with children:

Location:

Telephone number and contact person:

Email:

Dates visited:

Impressions of program:

Impressions of students' ability to communicate:

Family support available:

Program name:

Communication used with children:

Location:

Telephone number and contact person:

Email:

Dates visited:

Impressions of program:

Impressions of students' ability to communicate:

Family support available:

Program name:

Communication used with children:

Location:

Telephone number and contact person:

Email:

Dates visited:

Impressions of program:

Impressions of students' ability to communicate:

Family support available:

Program name:

Communication used with children:

Location:

Telephone number and contact person:

Email:

Dates visited:

Impressions of program:

Impressions of students' ability to communicate:

Family support available:

Program Summary

After visiting programs and reviewing the service options and communication methods, note what you think about each program.

	Program 1 _____	Program 2 _____	Program 3 _____	Program 4 _____
Things we liked				
Things we disliked				
We think this option is appropriate (or not) for our child because...				
My child will be able to understand information in this setting because....				
Adults who have been educated this way are now doing...				
Using this approach, we believe that as an adult our child can....				

Books, magazines, and tapes we like:

Important Contacts and Phone Numbers

Primary Care Physician:_____

Address:_____

Phone:_____After hours:_____

Ear Doctor:_____

Address:_____

Phone:_____After hours:_____

Audiologist:_____

Address:_____

Phone:_____After hours:_____

Speech Language Pathologist:_____

Address:_____

Phone:_____After hours:_____

Care Coordinator/Service Coordinator:_____

Address:_____

Phone: _____After hours:_____

Early Intervention Providers :

Name:_____PHONE:_____

Name:_____PHONE:_____

Name:_____PHONE:_____

Important Contacts

Public School Representative: _____

Title: _____ Phone: _____

Address: _____

Other Parents

Name: _____

Address: _____

Phone: _____ Email: _____

Name: _____

Address: _____

Phone: _____ Email: _____

Name: _____

Address: _____

Phone: _____ Email: _____

Other important contacts

Name: _____

Phone: _____ Email: _____

Name: _____

Phone: _____ Email: _____

Name: _____

Phone: _____ Email: _____

TECHNOLOGY

Improvement in technology has been, and continues to be, advancing at an amazing pace. Today people who are deaf or hard of hearing have the opportunity to access surprising amounts of information, both visual and auditory.

Your choice of professionals who work with you and your child is an important one. Choose professionals who are knowledgeable about current technology and are experienced in working with infants and very young children. Many technology options may be available to help enhance your child's communication abilities. Your goals for your child will help you decide which, if any, technology your child might use. Talk with professionals to learn about your options. Your audiologist can help you with the most current information on technology options. In addition, he/she should review the advantages and disadvantages of each type of technology you are considering. It would also be advisable for you to get a second opinion in order to be sure a particular technology option is best for your child.

Hearing Aids

A hearing aid is a device that fits in or behind the ear and makes sounds louder. Hearing aids can be adjusted to increase desired sounds in a particular range depending on the particular hearing loss. The goal is to amplify sounds common in speech while keeping environmental sounds at a comfortable level. Hearing aids, however, are just that -- an aid to hearing. They do not restore hearing or correct the hearing loss; rather they amplify and shape incoming sounds to make them more accessible to the wearer. For many infants, amplification can provide benefit and access to sounds. Even very young infants can be fit with hearing aids. Consistent and early use of auditory information is essential for spoken language and speech growth.

Hearing aids may provide benefit for children with all degrees of hearing loss. The goal is to maximize the hearing that a child does have. There are many different brands of hearing aids available for different types of hearing loss. It is important to get the features that are appropriate for your child. Your audiologist will explain available options.

When appropriately fit with hearing aids, some children can be taught to talk and to understand speech through listening alone. Some children may use hearing aids to be aware of sounds in their environment while communicating through sign language. Some may do both. It is important for you to become familiar and comfortable with your child's hearing aids. Ask your audiologist questions and to explain anything about the hearing aids you do not understand. Please see Appendix B of this resource guide for more detailed information about hearing aids.

Cochlear Implants

A cochlear implant is a sensory aid or device for adults and children with severe to profound hearing loss who get only limited benefit from hearing aids. Cochlear implants work by changing sound waves into electrical signals that can be processed by the brain. Cochlear implant systems include external parts, those worn on the

outside of the body, and internal parts, those that are surgically implanted into the inner ear. The internal components include a receiver/ stimulator anchored to the temporal bone and an electrode array that is surgically placed inside the cochlea (inner ear). The external components may include a behind the ear microphone, a body worn speech processor, and a transmitter coil worn on the scalp behind the ear. (In newer models the speech processor and transmitter are combined into one unit worn behind the ear). The external microphone of the cochlear implant picks up sound and changes it into electrical signals that are then converted into specially coded electrical signals by the speech processor. The transmitter coil then sends the coded signal to the internal electrodes in the cochlea, which stimulate the auditory nerve and send the signals to the brain.

Cochlear implant surgery is conducted at a specially designated hospital by a specially trained otologist. The surgery to place the internal components is generally done on an outpatient basis. Three to four weeks after the surgery the external components are programmed and the cochlear implant is stimulated. Not every child is a candidate for the cochlear implant. A team of professionals will conduct a series of formal evaluations to determine if a child meets the criteria for cochlear implantation. Age, type and degree of hearing loss, and potential to benefit from conventional hearing aids are some of the things considered. When selecting a cochlear implant center, the family should consider the experience the implant team has with children, the convenience of the location of the center and insurance issues as well as the ongoing commitment to providing therapy.

Similar to hearing aids, a cochlear implant is not a cure for deafness. Aural habilitation is necessary for children to obtain optimal performance with a cochlear implant. Children with cochlear implants demonstrate a wide range of performance based on many factors.

FM Systems

Children who use hearing aids or cochlear implants often have difficulty hearing speech in the presence of background noise or when the speaker is at a distance greater than three feet away. FM systems are commonly used in academic settings or in auditoriums or other large group settings. They allow children to hear the speaker's voice better over a distance and in background noise. An FM system consists of a microphone connected to a transmitter, worn by the speaker (e.g. a teacher or parent), and a receiver worn by the child. As with other assistive devices, there has been significant improvement in these devices in recent years. Current transmitters can be as small as the size of pagers and receivers can be built into behind-the-ear hearing aids, can be attachments that snap onto the bottom of behind-the-ear hearing aids, or can be electronic boxes the size of a small walkman worn on the body in a pouch with the sound then transmitted to the hearing aid in a variety of ways. The microphone picks up the voice of the speaker and sends the signal to the transmitter. The signal is then sent by wireless FM sound transmission to the child's receiver.

A Soundfield FM system consists of a microphone/transmitter worn by a person talking (i.e. teacher) and a receiver worn by the listener. The receiver is housed within or connected to loudspeakers that are placed throughout a room. These systems are typically used in classrooms.

Personal Soundfield FM systems have smaller and more portable receiver/speakers, enabling the user to carry the system to different rooms or environments.

Telecommunication Devices

Telecommunication devices for the deaf (TDD's, or sometimes referred to as TTY's), look like a small typewriter that can be used with a regular phone handset to allow deaf people to communicate with each other and with hearing individuals. The parts of a TTY include a keyboard, telephone coupler and some form of visual display where words are typed via TTY tones.

Since the passage of the Americans with Disabilities Act (ADA), relay services have been established in most major cities across the United States. Indiana's relay service is called Relay Indiana and is operated by Sprint. The number is *toll free at 711 and 800-743-3333*. A relay service involves the use of a telephone operator with a TTY who serves as a link between a deaf person using a TTY and a hearing person who may not have a TTY. TTY's can also be found at most public phones and at many public buildings. This service is provided 24-hours and the relay operator may only repeat exactly what is said or typed. All information stays confidential.

Signaling Devices

Signaling devices use lights or vibrations to assist deaf or hard of hearing individuals in attending to different sounds. Telephone signalers, doorbell signalers and smoke detectors that include strobe lights are more readily available through catalogs and distributors at reasonable cost. In addition, generic signal devices that can be plugged into wall outlets are available to make a particular light respond to any loud or sudden noise or a baby's cry. Specific wake up alarms, pagers or even watches also have vibrating signals that have been developed for deaf people.

Other Available Assistive Devices

There are many assistive devices available that may be helpful to your child as he or she grows. While some devices may not be needed now, you may find them helpful in the future. Technology continues to serve people who are deaf or who have hearing loss in their everyday lives and in the employment world.

Closed or Open Captioning: Captioning devices provide a written text of spoken words. Up until 1993, a special decoder device was necessary in order for captioning to occur and the term "closed" refers to that device. More recent technology for television, videos, and movies is "open" with the captioning feature included. Captioning allows those who are deaf or hard of hearing greater access to information and allows them better participation in a variety of technology. Parents may find captioning has educational benefits as well. Reading captions of news programs for example, increases vocabulary, awareness of current events, and reading ability.

Pagers and E-mail Pager Devices: Most pagers are available with vibrating signal systems. In addition, new pagers now available allow for instant e-mail messaging.

Telephone Amplifier: This type of device makes the sounds coming from a telephone louder and may be used with or without hearing aids. There are several different kinds of telephone amplifiers that may be useful for a person's specific needs. Many public telephones are equipped with volume controls.

Vibro-Tactile device: These devices convert sounds into signals that are felt on the skin as vibrations. The device is worn on the body, typically on the chest or arm. These devices may be helpful to some children who do not benefit from traditional types of hearing aids.

EDUCATIONAL CONSIDERATIONS

In Indiana, children under the age of three who are eligible for early intervention may be served by the First Steps early intervention system. The agency administering that program is Family and Social Services Administration.

Children who are three to five years of age and who are eligible for preschool special education services may be served by their local public school system / local education agency (LEA). Your child will have the opportunity to transition from First Steps into a community-based preschool or attend a special education preschool program. Your local school system has a responsibility to provide a free and appropriate public education (FAPE) that meets your child's individual needs.

If you have participated in First Steps, your Service Coordinator will notify your LEA that your child may be in need of Special Education. **If you are not participating in First Steps, you will need to inform the school yourself.** The information given to the school will not personally identify your child unless you give permission. When your child is 30 months of age, a representative from your school will be invited to meet with you and begin planning the transition out of early intervention. The school is allowed to use existing information but because they will address educational issues, they may need to do additional testing. The evaluation will take place prior to your child's third birthday in order to prevent a lapse in services. The evaluation should include a current hearing test, a social and developmental history, a standardized test to determine your child's learning capability, and an assessment of educational needs.

Prior to your child's third birthday, your public school representative will set up a meeting called a Case Conference to look at the evaluation results, determine eligibility for services, and to write an Individualized Education Plan, (IEP). The IEP will be similar to the IFSP (Individualized Family Service Plan) process in First Steps, however the IEP focuses on your child's educational needs rather than developmental needs. There may be some participants in the IEP who are not familiar to you. For example, the school principal or a teacher of the hearing impaired may attend. You may invite anyone who you would like to attend this meeting including a friend or an educational advocate if it makes you feel more comfortable.

Children with hearing loss are eligible for special education and related services under Section 619 of the Individuals with Disabilities Education Act (IDEA). There are some basic differences between the early intervention and preschool systems as defined by the Individuals with Disabilities Education Act (IDEA). Part C of IDEA, or early intervention, focuses on the family and how they can be supported to enhance the overall development of their child. Part B, or preschool, focuses on the education of an individual child. The timelines are different for each of the programs. Because Part B is concerned with school, the timelines are often measured in instructional days. Instead of an IFSP, there is a written individualized educational plan (IEP). The school is required to provide services that enable an eligible child to benefit from the educational environment. Because a preschool child is in school for only a portion of the day, it may seem that fewer services are being provided than in the early intervention program. You should become familiar with the differences in the early intervention and preschool systems so you understand what your choices are and can make the best decision for your child.

While there are differences, there are also similarities in the two systems. Once in the preschool system, families still are protected by procedural safeguards and have certain rights and responsibilities. A multidisciplinary team must determine eligibility. For children with a hearing loss, the team must include an audiologist, a speech language pathologist, the school psychologist and a teacher licensed in the area of disability. No tests or assessments will be conducted without your written permission. The team must consider information that you provide. Your child's records will still be kept confidential and will not be released to anyone without your permission. As a parent, you will still be a very important member of the planning team. You have a right to an advocate to help you through the process and if you disagree, you have the right to due process.

Like an IFSP, your child's IEP will be reviewed and rewritten at least every year. You are an important part of this educational team. You may request a meeting of your child's team anytime you have a concern or if you feel there is a need to discuss something. As before, you have rights and safeguards to ensure your child receives education and support services necessary to benefit from that education. It is your responsibility to learn what your rights are so you can effectively advocate for your child.

Many resources are available to help you understand this system and some are listed in Appendix D of this guide. Conferences, training sessions and workshops are offered to families throughout the state to ensure their understanding and participation in the educational system. It is important to know that the Individuals with Disabilities Education Act was recently reauthorized. There were many changes at the federal level and states are required to comply with those changes. Indiana wrote a new set of procedural guidelines (Article 7) to implement the changes in IDEA. Schools in Indiana are required to comply with Article 7 as of June 21, 2000.

Among the issues that a case conference committee must consider for a child with a hearing loss are: assistive technology needs, related support services, communication needs, and extended school year services. IDEA states:

"The IEP team shall consider the communication needs of the child, and in the case of a child who is deaf or hard of hearing, consider the child's language and communication needs, opportunities for direct communications with peers and professional personnel in the child's language and communication mode, academic level, and full range of needs, including opportunity for direct instruction in the child's communication mode."

Your child will have the right to receive his/her education in the Least Restrictive Environment (LRE). The definition of the least restrictive environment will be determined individually based on the specific academic and communication needs of your child.

The Department of Education is the state regulatory body that oversees the special education programs and monitors public schools to ensure compliance with Article 7 (Indiana's Special Education Law). If you have any questions about how your public school is implementing IDEA, you can contact the Indiana Department of Education at 1-877-851-4106.

Factors to consider when choosing services or educational programs:

1. Do the teachers and support personnel have specific training in working with students who have hearing loss?
2. Does the program allow full access to the chosen communication option?
3. Is there technical support for personal amplification as well as provision and management of FM equipment if recommended?
4. Can the professionals provide you with a broad base of information including deaf/hard of hearing community resources, information on hearing loss and hearing assessment, communication options, educational options, and emotional support?
5. Is the program supportive of your legal rights and your child's right to an education?
6. Will the program meet your child's needs at his/her age and developmental level? Is the program following developmentally appropriate practices?

You should take an active role in the decisions about your child. As parents and active members of your child's team, be prepared to share with the other team members any information that you find helpful. You know your child best. You know what works well and what does not. You should feel comfortable asking for assistance with any aspect of your child's education and related service. For example, if you know your child does not like sudden changes and seems to be having a problem in school whenever it is time to switch to a new activity, talk to the team about it. Share with them what works well for you and your child and what doesn't. The team is there to ensure your child's success by working together with you.

Appendix A

General Developmental Milestones

All babies are unique and will develop at their own pace. Some will walk and talk at an early age and others will start a little later. It is common for parents to have questions about their child's development during the first few years, especially if they are new parents. The following is a general development checklist, developed by Marion County First Steps that will help you evaluate your child's progress. Remember, this is only a guide and not every child may reach every goal at the exact same time. If you do feel that your child is not making progress, please talk with your child's physician or contact your local First Steps office for assistance.

1-2 Months

- Turns head in direction that cheek is touched
- Startles to loud noises
- Turns head from side to side when lying on stomach
- Shows gains in height and weight
- Able to suck/swallow easily

3-4 Months

- Rolls from stomach to back
- Makes sounds other than crying
- Holds a rattle and smiles
- Shows gains in height and weight
- Turns towards bright light and color

4-6 Months

- Rolls from stomach to back and back to stomach
- Reaches for and grasps objects
- Moves toys from hand to hand
- Balances for a few seconds while sitting
- Makes sounds in response to adult smiles and talk

6-9 Months

- Creeps or crawls forward on tummy by moving arms and legs
- Plays pat-a-cake and peek-a-boo
- Sits independently
- Shows gains in height and weight
- Babbles and laughs out loud
- Waves bye-bye

9-12 Months

- Pulls to a stand
- Picks up small objects
- Walks with both hands held
- Twists to pick up objects while sitting
- Imitates simple sounds
- Plays with parents/siblings
- Walks holding on to furniture
- Crawls or creeps on hands and knees

12-15 Months

- Says words besides “ma-ma” or “da-da”
- Walks without help
- Drinks from a cup or glass
- Picks up small objects
- Takes turns rolling a ball
- Responds to a simple request

15-18 Months

- Looks at picture books/turns pages
- Feeds self with spoon
- Likes to push, pull or dump things
- Walks without support
- Tries to talk and repeat words
- Identifies self in mirror
- Shows needs by grunting and pointing
- Uses spoon but spills

18-24 Months

- Uses two and three-word sentences
- Carries objects when walking
- Shows affection, offers hugs and kisses
- Says “no” often
- Chews small bites of food
- Actively plays with toys
- Understands simple directions
- Points to nose, eyes, hair and mouth
- Kicks a large ball
- Has about 20 words/signs in vocabulary

25-30 Months

- Eats with utensils
- Runs well and stops well
- Engages in simple pretend play
- Recognizes familiar adult in photo
- Enjoys playing with other children
- Follows a 2 part direction
- Understands size words like “big” or “little”
- Enjoys being read to
- Tries to stand on one foot
- Uses a crayon or pencil to imitate lines or circles
- May be shy with strangers

30-36 Months

- Repeats common rhymes
- Plays house
- Copies a circle
- Washes and dries hands
- Helps tell a favorite story
- Climbs playground equipment
- Resists transitions and other changes
- Pedals a trike

Auditory and Visual Language Milestones

Early detection of hearing loss can make a big difference in a child's development. If your baby is behind in some of these milestones, talk to your child's doctor, provider, or contact your local First Steps office for assistance. With early intervention children with hearing loss may acquire language skills at the same rate as their same aged peers in the sequences listed below.

Birth – 3 Months

- Is startled by loud noises
- Is soothed by familiar voices
- Makes vowel sounds – ooh, ahh
- Squeals, coos, laughs, gurgles
- Facial expressions begin showing pleasure, discomfort etc.
- Tracks people with her/his eyes
- Uses limb movements (legs/arms) to indicate need/want
- Looks at person when touched

3-6 Months

- Makes a variety of sounds, such as “ba-ba”, “gaba”, “ma”
- Seems to enjoy babbling (with sounds and/or hands/fingers)
- Uses a variety of pitches
- Likes toys that make sounds, lights blinking, and/or vibrates
- Turns eyes and head to sounds, including parent's voice or hands, gestures or signs

6-9 Months

- Plays with sound/hand movements/rhymes through repetition: “la-la-la”
- Understands “no” and “bye-bye”, daily words or signs – milk, sleep, eat, play
- Says “da-da” or “ma-ma”
- Uses index finger for “mom/dad”
- Listens to music or singing and/or observes-watches signing (rhythms)
- First true signs are used for food, clothes, or greeting (8 months)

8-12 Months

- Recognize signs for daily words – milk, sleep, hurt,
- Responds differently to happy/angry talking/signs
- Turns head toward loud/soft sounds or any visual signalers/movements
- “Jabbers” in response to human voice/facial expressions
- Gives toys when asked
- Uses two-three words in addition to “da-da” or “ma-ma”
- Stops in response to “no” (voice/sign)
- Follows simple directions (voice/sign)

12-18 Months

- Identifies people, body parts, and toys on request
- Locates sound in all directions
- Uses facial grammar with signs
- Shakes head (no, don't want)
- Signs “what”/“where”
- Marks “yes” and “no” with eyebrows

- Points with an index finger, adding a sign(s)
- Begins to use “7 Simple Hand Shapes”
- Names what s/he wants
- Talks/signs in what sounds/looks like sentences, with a few understandable words and or signs
- Gestures with speech/body language
- Bounces to music (visually and auditory)
- Repeats some words and or signs

18-24 Months

- Follows simple commands
- Speaks/signs in two-word phrases, somewhat understandable
- Recognizes sounds in the environment (car, dog, vacuum, doorbell)
- Has a vocabulary of 50 words/signs or more
- Turn taking skills begin

24-36 Months

- Engages in short dialogues
- Expresses emotions
- Begins to use language in imaginative ways
- Begins to use sign classifiers
- Talks/signs about what she/he has scribbled
- Asks simple questions

COMMON FIRST 40 WORDS by 24 MONTHS OLD

(You can use this guide to monitor and reinforce communication and language)

Daddy
 Mommy
 Bye
 Hi
 Ball
 Shoe
 Baby
 No
 More
 Bottle
 Cookie
 Kitty/Meow
 Dog/Woof
 Uh-Oh
 Eye
 Nose
 Bird
 Cracker
 Banana
 Eat
 Juice
 Ouch
 Cow/Moo
 Finish/all-done
 Yum-Yum
 Book
 Bath
 Duck
 Peek-a-Boo
 Nite-Nite/sleep
 Car
 Cheese
 Vroom
 Kiss
 Keys
 Apple
 Rain
 Tree
 Fish
 Name/Name Sign

<u>SPOKEN ENGLISH</u>	<u>SIGN LANGUAGE</u>

Appendix B

Hearing Aids

A child is fit with hearing aids to increase his or her access to sound. Fitting a young child with a hearing aid is not a one-time event, but an ongoing process. A young child's limited ability to describe what he or she hears is part of the challenge. You and your audiologist may try different hearing aids, or several modifications to one hearing aid, before finding the best solution.

How does a hearing aid work?

Sounds are picked up by a microphone and carried to a signal processor (amplifier). The sounds are then made louder and shaped to match the hearing loss characteristics such as frequency (pitch) and intensity (loudness). The sound is then sent through the receiver and delivered by the earmold into the ear.

What are earmolds?

Earmolds are made from soft, comfortable material that fit inside the ear and are attached to behind-the-ear (BTE) or body hearing aids. The earmold is made to fit snugly inside the ear and a good fit is essential for the effective amplification of sound. If an earmold does not fit properly, sound leaks out from around it. This causes the hearing aid to "whistle" because of feedback. If the hearing aid whistles often, it may mean that your child needs a new earmold. Do not turn down the loudness setting to stop the whistle; your child will not be hearing all sounds optimally. New earmolds will be made as your child's ears grow. Young infants and toddlers will need new earmolds every few months. If a new earmold doesn't fit properly, it should be modified or remade.

When should my child get a hearing aid?

Children identified with a hearing loss can be fit with hearing aids as young as a few weeks old. Research tells us that fitting a hearing aid as soon as possible helps to minimize the effect of the hearing loss on language development. The earlier the auditory centers of the brain are stimulated with sound, the sooner the brain can begin to understand sound. If a child has a hearing loss in both ears, two hearing aids (binaural hearing aids) should be worn. In some special medical or audiological circumstances, wearing only one hearing aid may be optimal.

Who decides which hearing aid is best?

Parents and the child's audiologist should come to a careful decision regarding the best amplification for your child. Only after considering your child's individual needs, including the characteristics of the hearing loss, available technology, and financial resources should hearing aids be chosen. Hearing aids are prescribed for the best possible fit with the information available. As more specific information about the hearing loss is obtained, the hearing aids may be adjusted. The audiologist will perform tests while your child is wearing the hearing aids to further confirm and refine the fitting. Much useful information will come from observing your child's reaction to sounds while wearing the aids. The audiologist will be able to make observations during appointments, but you will have the opportunities to notice how your child responds and acts in a wide range of daily situations. Take note and share what you observe with your audiologist. Different brands of hearing aids offer specific features. The key objective is to get the features that are appropriate for each individual listener. Your child's otolaryngologist or ENT physician will provide a medical clearance statement to permit the fitting of hearing aids in compliance with the Food & Drug Administration (FDA).

What is the most appropriate hearing aid for my child?

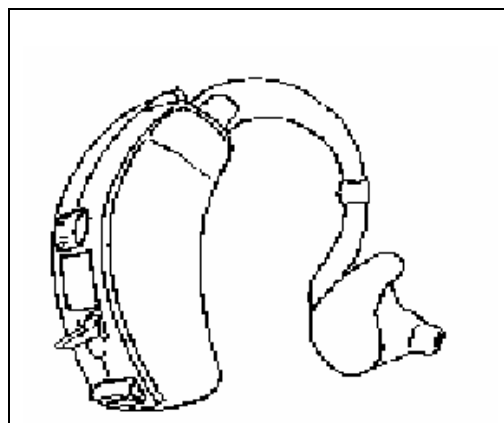
Although, the advanced technology is appealing, some conventional hearing aids may be adequate and appropriate for your child's hearing loss. The most appropriate may not always be the most expensive advanced technology. Regardless of the hearing aids ultimately chosen, they should be equipped with a strong telecoil and direct audio input (DAI) for potential use with assistive listening devices such as a FM system. These features included from the start will prevent the need for reconditioning or replacement and further expenses later.

What styles of hearing aids are available for children?

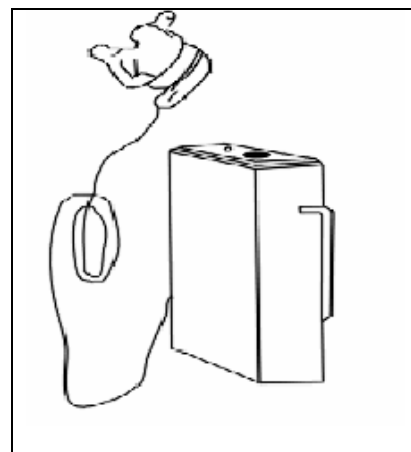
Hearing aid styles differ by how they are worn. Some are worn on or in the ear. Some are worn on the body. Hearing aids that are worn inside the ear are generally not appropriate or recommended for young children. Body aids are less frequently recommended for young children however may be appropriate under special circumstances. Your audiologist will provide you with information about the hearing aid type and style that is most appropriate for your child's hearing loss.

Behind the Ear Hearing Aid (BTE): Hearing aids are positioned behind the ear and coupled to the ear with a custom fitted earmold. BTE hearing aids are appropriate for all degrees of hearing loss and are usually preferred for infants and young children for the following reasons:

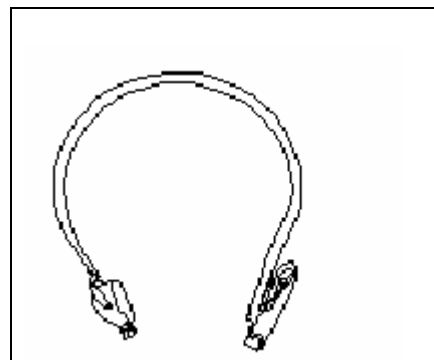
1. BTE hearing aids are often more reliable and less easily damaged.
2. BTE hearing aids are easily connected to an FM system or assistive technology device that may be used at a later time, possibly in a group or school setting. Some features such as direct audio input (DAI) need to be specified at the time the hearing aid is ordered. Ask your audiologist about these features.
3. BTE hearing aids and earmolds are available in a variety of colors and with accessories designed specifically for children.



Body Hearing Aid: The hearing aid is in a small case that is worn on the body, typically in a pouch harness, with a wire connecting to a button receiver snapped into the earmolds. In the past, body aids were often recommended for children requiring high levels of power or amplification. However, today most BTE hearing aids can provide appropriate power for a child with even a profound hearing loss. The ear level location of the microphone on a BTE is acoustically more appropriate than the microphone placement on the body that occurs with body worn hearing aids.



Bone Conduction Hearing Aid: Some children with a conductive hearing loss and/or malformed or missing outer ears that cannot be medically or surgically corrected, may use bone conduction hearing aids. This is a specially adapted version of a BTE style aid and other styles can also be adapted to bone conduction hearing aids.



What Are the Parts of a Hearing Aid?

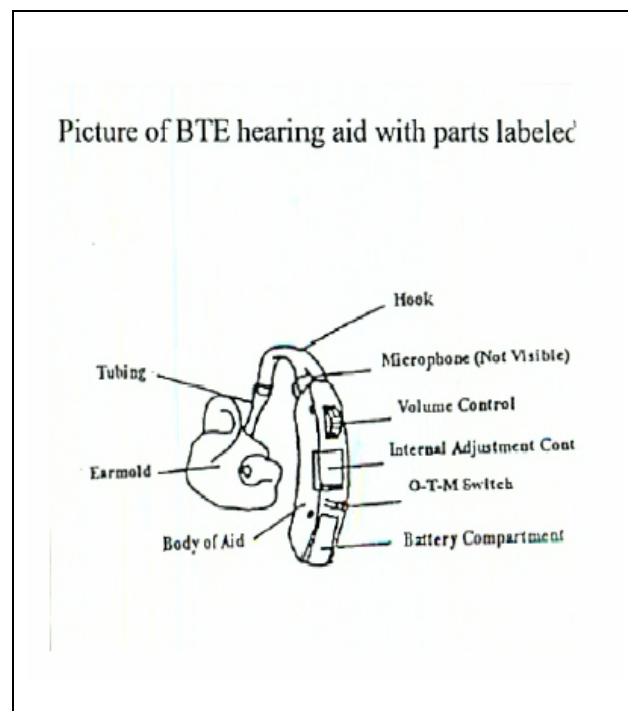
Earmold: Custom made device that is worn with BTE and body hearing aids. Its primary job is to carry the sound provided by the hearing aid into the ear canal. It can also be acoustically tuned to help shape the sound delivered to the eardrum. It should fit snugly to prevent sound leakage, which can cause feedback (a high pitched whistling sound).

Tubing: Soft and flexible, it connects the earmold to the hearing aid. It is securely attached to the earmold and detachable from the earhook. It may be easily replaced if torn, cracked or is too short.

Earhook: Curved, hard plastic hook that supports the hearing aid on top of the ear. It protects the receiver and channels sound to the earmold. It may have a filter to further shape the sound for the individual needs of the listener. It may be replaced if it becomes damaged or the filter becomes plugged.

Microphone: Collects sound from the environment and converts the acoustic signal (sound) into an electric signal. The microphone is located on the casing of the hearing aid generally near the top.

Amplifier or Circuitry: The insides or 'guts' of the hearing aid. It shapes the sound, now an electrical signal, and makes it louder.



Receiver: A sound speaker inside the hearing aid that opens into the earhook. The receiver converts the amplified and shaped electrical signal back into an acoustic signal (sound).

Battery: Provides power for the hearing aid. It needs to be changed regularly. A battery door accesses the battery compartment. **Batteries are toxic if swallowed.** Tamper resistant battery doors are often recommended for children.

Internal adjustment controls or computer cable connector ports: Accessed by the audiologist to modify the sound shaping and frequency response of the hearing aid.

Switch: Used to turn the hearing aid on and/or switch between different settings.

Volume control: Usually a numbered wheel that changes the loudness of the sound. Some hearing aids may not need this control.

Directional (twin or multi) Microphones: Two or more microphones on the hearing aid that allows the hearing aid to be changed from omnidirectional hearing (hearing all around) to directional hearing (primarily amplifying speech and sounds from in front). This feature is very helpful reducing background noise in many listening situations based on the premise that the listener is normally facing the speaker. (Note: This would not be ideal for small children whose parents are often trying to call them from behind.)

FM Capability: An added or standard feature on behind-the-ear hearing aids, which allows assistive listening devices or FM systems to be attached directly to the hearing aid.

What types of hearing aid technology/ circuitry are available?

The circuitry of a hearing aid is the internal components and wires that process incoming sounds in a specific manner. These components and wires are the main element of a hearing aid and can affect the final price. The circuitry is responsible for how sounds are shaped and made louder. The circuitries utilized in some hearing aids now employ tiny computer chips and higher technology. In general, there are three types of hearing aid circuitry available.

Conventional Analogue: Analogue circuitry refers to the way a sound signal is received and processed over time. Larger samples of information are taken and averaged over time.

Programmable Analogue: These hearing aids use an internal microchip to program the parameters, however, once the hearing aid is unhooked from the computer the incoming signals will be processed by analog means.

Programmable Digital: Fully digital hearing aids are programmed digitally and continue to process incoming signals digitally when unhooked from the programming device or computer.

There are many differing circuitry features available even within these three general types. Please see the information at the end of this appendix regarding some circuitry features. Ask your audiologist about your options.

How much do hearing aids cost?

Hearing aids range in price, depending on the technology used and the specific features. As expected, digital, the more advanced technology, is more expensive. Some insurance policies allow hearing aids as a covered benefit. However, certain conditions may apply and the type of hearing aids that will be covered may be specified. Often times, insurance will not cover the cost of hearing aids, earmolds or batteries for a child born with a hearing loss.

Should you choose to participate in the state early intervention system, First Steps will pay a set amount (up to \$900 per hearing aid, including an extended warranty that covers the hearing aid until the child's third birthday) for a one-time purchase of hearing aids until your child's third birthday. First Steps will pay for earmolds, batteries, dry-aid kit and other products associated with hearing aids. To assist in determining appropriate amplification, your audiologist may choose to access a loaner bank for a trial hearing aid(s) to use for up to six months. The Lion's Club, in partnership with First Steps, has donated financial resources to develop a loaner bank of hearing aids for Indiana children. A large number of hearing aids varying in types of technology and features are available. While priority is given to young infants, all children living in Indiana may apply for use of loaner hearing aid(s). If conventional, programmable, or digital aids are recommended, First Steps will purchase these for your child with no special approval required.

What happens if they break?

Even with the best of care, at times the hearing aids will need repair. After all, they are just miniature mechanical devices and like all machines will at times need parts replaced or repaired. Ask your audiologist how to troubleshoot a problem with the hearing aid. Often you will be able to solve minor problems yourself at home, saving time, energy and money. Other times, a problem may require the attention of the audiologist or manufacturer. Hearing aids may be insured beyond the manufacturer's warranty for loss, damage and repair and your audiologist will be able to assist should you be interested in investigating this option.

How long do hearing aids last?

Hearing aids do not last forever and need to be replaced at some point. Although there is variability in how long hearing aids last, the usual life span for behind-the-ear hearing aids is three to five years. Infants and young children may be hard on hearing aids, but ongoing care and maintenance will help you to maximize the life of your child's hearing aids.

How can I keep my child's hearing aid in place?

One of the most frequent problems with infants and young children is keeping the hearing aids in place behind the ear and close to the child's head. There are simple adjustments in the earmold or earhook that your audiologist may be able to make to improve retention of the hearing aid. In addition, there are several devices that may help keep the hearing aids securely on the child's ear:

Huggie Aids™ - Commercially available hearing aid retainers. A circular piece of tubing fits around the ear and attaches to the aid with straps.

Double-sided Cloth Cosmetic Tape - A small piece of tape placed on the back of the hearing aid to hold it in place. Tape to hold hairpieces in place works well. (Check to be sure the tape does not irritate the child's skin).

Headband, Hat, or Bonnet - Although typically a last resort, these are often successful when nothing else works.

TYPES OF HEARING AID TECHNOLOGY/ CIRCUITRY AVAILABLE

Linear: This type of circuitry amplifies the same amount of power or gain across all frequencies and for all sounds, loud or soft, until the limits of the hearing aid's power. It is the oldest type of circuitry used in hearing aids.

Nonlinear/ Compression: Nonlinear means the relationship between the incoming sound and the output of the hearing aid are not proportional. Compression describes how the amplification is reduced for loud sounds. This type of circuitry amplifies soft incoming sounds more than loud sounds.

Conventional analog processing: The way in which a signal is received and processed over time. Larger samples of information are taken and averaged over time.

Digital processing: The way a signal is received and changed to a specific numeric value at specific moments in time. These circuits use an internal microprocessor to convert sound to numbers according to a mathematical formula called an algorithm. The algorithm automatically changes sound for different listening environments. A primary advantage of digital processing is the increased ability to fine-tune.

Programmable hearing aids: These hearing aids use an internal microchip for precise sound adjustments. The hearing aid's parameters (gain/amplification, frequency response, compression) are programmed through a computer or handheld programming device. The process used to program the parameters is digital and these devices are often referred to as digitally programmable hearing aids. However, once the hearing aid is unhooked from the computer the incoming signals will be processed by analog means.

Fully digital hearing aids: are programmed digitally and continue to process incoming signals digitally when unhooked from the programming device or computer. Fully digital hearing aids have the ability to automatically sample the incoming sounds and adjust amplification accordingly in a fraction of a second.

Multiple memories: Hearing aids with this ability can be programmed with different settings (parameters) or memories for different listening situations. For example: one setting for quiet environments, another for noisier environments. A remote control may be used to switch between memories to provide comfortable amplification in a particular environment.

Multiple channels: Low frequencies and high frequencies can be separated into bands. Each band can then be processed independently.

Appendix C

Financial Assistance

If you have private health insurance, check with your carrier to determine if therapy services, hearing aids and/or assistive technology is covered. If you are already participating in First Steps, your Service Coordinator can help you get more information about any of the programs and can help you apply.

Children's Special Health Care Services (C.S.H.C.S)

Help families of children with serious, chronic "medical" conditions get treatment for their child's condition. Child must be under 22 years of age, an Indiana resident, and medically and financially eligible. 1-800-475-1355

First Steps (see Early Intervention section for additional information)

Indiana First Steps is the statewide, family-centered, coordinated system to serve all children from birth to three years of age who have disabilities or who are at risk for developmental delays. This program is available to all families living in Indiana (regardless of income) made available through your tax dollars. If you pay taxes in Indiana, and have a child age birth to 2 years, 11 months in need of services, you have the opportunity to access these services through First Steps as your right outlined in state and federal law. For more information on eligibility and available services, call 1-800-441-7837 to obtain the telephone number for your county First Steps office.

Hoosier Healthwise

Hoosier Healthwise is a health insurance program offered through the Indiana Division of Family and Children. It pays medical expenses for pregnant women and children up to 18 years of age. You must meet income eligibility requirements. If your family's income is too high, you still may be eligible for the Medical Assistance Program for the Disabled or the Spend Down program. This program lets families with regular monthly medical bills deduct these expenses to meet income guidelines. Call 1-800-889-9949 for additional information.

Indiana Comprehensive Health Insurance Association (ICHIA)

Provides health insurance for Indiana residents who are denied health insurance because of a medical problem. Call 1-800-552-7921 or go to www.onlinehealthplan.com for more information.

Supplemental Security Income (SSI)

Provides benefits for children and adults with a limited income who have certain medical conditions or disabilities. Call 1-800-772-1213 for more information or go to www.socialsecurity.gov to obtain your local social security office phone number.

Philanthropic Organizations

Several organizations provide funding for hearing aids, assistive devices, hearing aid accessories, and/or therapy services as a last resort when other funding sources are not available. The following are several organizations that may provide assistance and may be contacted in your area: Lion's Club International, Sertoma, Optimist, Psi Iota Xi, Hearing Impaired Kids Endowment Fund, H.I.K.E. (Job's Daughters).

Talk with your service providers. They may be able to give you information about other potential resources for financial assistance.

Appendix D

State Resource Agencies and Parent Resources

This is a list of statewide resources or agencies. You may wish to ask your service coordinator for additional local community resources and providers.

Indiana's Early Intervention System: First Steps

Division of Family and Children
Bureau of Child Development
402 W. Washington Street
Indianapolis, Indiana 46204-2739
800-441-STEP (7837)
e-mail: dawn.downer.@fssa.in.gov

Newborn Hearing Screening Program Indiana State Department of Health

2 North Meridian Street 7F
Indianapolis, Indiana 46204
Contact: Julie Schulte
317-234-3358
317-234-2995
e-mail: jschulte@isdh.state.in.us

Indiana's Special Education System:

Division of Exceptional Learners
Department of Education
Associate Superintendent: Bob Marra
Room 229 State House
Indianapolis, IN 46204
317-232-0589 Fax
317- 232-0570
877-851-4106

Attain, Inc.

Assistive Technology/Technical
Assistance in Indiana
32 E. Washington
Indianapolis, IN 46204
317-486-8808
800-528-8246 (In State)
317-486-8809 Fax
www.Attaininc.org

Indiana's School for the Deaf

1200 E. 42nd Street
Indianapolis, IN 46205
800-724-9950 V/TDD
www.deafhoosiers.com

Indiana Protection and Advocacy

4701 Keystone Ave
Indianapolis, IN 46205 Phone: 800-622-4845
Phone: 800-622-4845
www.in.gov/ipas

Indiana's Deaf and Hard of Hearing Office

Division of Disability, Aging and
Rehabilitative Services
DHHS, PO Box 7083
IN Government Center South
Indianapolis, IN 46204-7083
800-926-8408 V/TDD
www.in.gov.fssa.dhhs

Partnership for Assistive Technology with Indiana Schools (PATINS)

4730 W. Gadston Street
Indianapolis, IN 46241
317-243-5737
Contact: Jeff Bond
http://eacs.k12.in.us./patins
www.patinsprojects.com
(Vicki Hershman- State Project Director)

Indiana's Deaf-Blind Project

Ms. Karen Goehl
Indiana State University
College of Education
502 Blumberg Center
Terre Haute, Indiana 47809
800-622-3035
812-237-3022 TTY
e-mail: kgoehl@instate.edu

Outreach Services for the**Deaf and Hard-of-Hearing**

1200 E. 42nd Street
Indianapolis, IN 46205
317-920-6311

Saint Joseph's Institute for the Deaf

1292 East 91st Street
Indianapolis, IN 46240
317-843-2344
Contact : Terri Oulette
e-mail : indy@sjid.org

Indiana Hands & Voices

(temporary address)
1200 E. 42nd Street
Indianapolis, IN 46205
317-920-6311
e-mail: inhandsandvoices@inhandsandvoices.org
(National Hands & Voices:
www.handsandvoices.org)

UNIVERSAL NEWBORN HEARING SCREENING CONSULTANTS

Audiology Coordinator- UNHS/EDHI

Julie Schulte M.A. , CCC-A
Phone: 317-234-3358
Fax: 317-234-2995
e-mail: jschulte@isdh.state.in.us

Northwest Regional Consultant (Region 1)

Amy Peters Lalios, M.A., CCC-A, Cert. AVT
Phone: (219) 769-1830
Fax: (219) 769-4459
e-mail: Lalios@jorsm.com

East Central Regional Consultant (Region 2)

Dr. Sherry Hodge, CCC-A
Phone: (765) 608-3277
Fax: (765) 608-3278
e-mail: shodgeaud@msn..com

West Central Regional Consultant (Region 3)

Michelle Wagner-Escobar, M.A., CCC-A
Phone: 317-338-2270
317- 705-1403
e-mail: Mwescobar@indy.rr.com

Central Regional Consultant (Region 4)

Molly L. Pope, M.A.T., CCC-A
Phone: 317-272-3837
317-233-1264
Fax: 317- 234-2995
e-mail: mpope@isdh.state.in.us

Southwest Regional Consultant (Region 5)

Julia Balbach, M.A., CCC-A
Jayne Metzger Feilds, M.Aud., Ed.S., CCC-A
Phone: 812- 479-1411
Fax 812-437-2636
e-mail: Jbalbach@evansvillerehab.com
e-mail: Jfeilds@evansvillerehab.com

Southeast Regional Consultant (Region 6)

Jay Cherry, M.A. CCC-A
Phone: 812-523-3323
e-mail: jncherry@comcast.net

The map on the following page indicates the regions covered by the Regional Audiology Consultants listed on this page. All hospitals in Indiana are also listed.

(INSERT STATE MAP)

Parent Support and Links with Other Parents

HEAR Indiana

10398 Carlisle Way
Noblesville, IN 46060
317-293-5373
Contact: Jana Raymer
317-773-8429
e-mail: raymerhouse@aol.com
www.agbell.org/in/

This not for profit organization is the state Chapter of the Alexander Graham Bell Assoc. The organization provides educational resources and a support network for children with hearing impairments, their parents and the professionals who guide and assist them in the pursuit to develop spoken language.

IN*SOURCE

809 North Michigan
South Bend, Indiana 46601
574- 234-7101
800-233-4433
e-mail: insource@insource.org

The Indiana Resource Center for Families with Special Needs was incorporated in 1975 to provide parents, families and service providers in Indiana the information and training necessary to help assure effective educational programs and appropriate services for children and young adults with disabilities.

Indiana Parent Information Network (IPIN)

4755 Kingsway Drive, Suite 105
Indianapolis, IN 46205
800-964-4746
317-257-8683
familynetw@ipin.org
www.ipin.org

The Indiana Parent Information Network (IPIN) provides information to parents of children with special needs and professionals about laws, services and resources throughout the state including information and training about health care financing and child care.

Parent Infant Program

Indiana School for the Deaf
1200 E. 42nd Street
Indianapolis, IN 46205
800-724-9550 V/TDD
317-924-8415
Lori Dille, Coordinator
e-mail: Ldille@isfd.state.in.us
www.deaf-kids.com

This is the only statewide program for families of children who are deaf or hard of hearing, birth through 5 years of age. It is located at the Indiana School for the Deaf as a part of the Outreach Department. Program offers home visits, program visits, support groups, playgroups, book and lending library services, and a full range of assessment services. www.deafhoosiers.com/ReachingOut/

First Steps Family to Family Support

1610 Brockton Court
Granger, IN 46530
574-277-2486
574-273-5208 Fax
Project Director: Mary Jo Paladino
e-mail: mpaladin@indiana.edu

First Steps Family to Family Support is a project established to assist families who have been in the First Steps early intervention system connect with other families and learn how to become more active participants in the system at a variety of levels.

Children Hearing and Talking (CHAT) of Northwest Indiana

Contact: Cindy Johnston
800 Shannon Drive
Chesterton, IN 46304
219-929-1841
e-mail: tcccjohnston@hotmail.com

CHAT is a family support group in Northwest Indiana that provides information and support for parents seeking or considering the auditory-verbal approach to communication.

COMMUNITY AGENCIES FOR THE DEAF

The agencies listed below provide interpreters, links to Deaf community events and individuals in their area, and may provide case management and services to Deaf adults in their community. Contact your community agency to find out what services they may provide you and your family.

Central Indiana Interpreting Service (CIIS)

Coordinator/Interpreter: Robert Frew
7576 Fern Hill Lane
Morgantown, IN 46160
(812) 597-0283 Voice/TTY
Pager: (317) 259-2260
e-mail: Robert@reliable-net.net

Community Services with All Deaf (CSAD)

A Division of United Health Services
Coordinator/Interpreter: Mandy Ryan
711 E. Colfax Avenue
South Bend, IN 46617
574-234-3136 Voice Mail Ext. 37
574-234-8177 Fax
Emergency Pager: 574-386-1079
e-mail: csad@uhs-in.org

Deaf Community Services (DCS)

A Division of Easter Seal Crossroads
Director: George Perry
4740 Kingsway Dr.
Indianapolis, IN 46205
317-479-3240 Voice/TTY
Rehabilitation Center TTY: 317-479-3232
317- 479-3241 Fax
24 hr emergency cell phone: 317- 985-1548
24 hr emergency e-mail: dc4u@tmail.com
non-emergency e-mail: dcsterps@eastersealscrossroads.org
website: www.eastersealscrossroads.org

Deaf Services, Inc. (DSI)

Director: Georgene Duncan
6 E. 67th Avenue
Merrillville, IN 46410
Voice: 291-769-6506
TTY: (219) 769-8912
FAX: (219) 769-6975
Emergency Beeper: 219-751-6723
e-mail: deafdsi2@comcast.net

COMMUNITY AGENCIES FOR THE DEAF

continued

Professional Interpreters for the Deaf (PID)

Interpreter/Director: Joanne C. Snyder
7329 Marshall Street
Merrillville, IN 46410
Voice: 219- 736-7512
TTY: 219-769-6298
FAX: 219-736-2499

DeafLink

A Division of Anthony Wayne Services (AWS)
Interpreter/Coordinator: Marsha Kunasch
2101 Fillmore Street
Fort Wayne, IN 46802
Voice: 260-744-6145
Pager: 260-481-8153
TTY: 260-436-7977

South Central Indiana Interpreting (SCII)

Director: Janet Lancaster
2640 Eastbrook Plaza
Columbus, IN 47201
812-375-1806
e-mail: sciijanet@yahoo.com

Rauch, Inc.,

Director: Cora McNabb
1200 Bono Road
New Albany, IN 47150
Voice: 812- 945-4063
TTY: 812-944-4454
Toll Free Voice/TTY: 1-800-757-5834
FAX: 812- 941-5243
Voice Mail: 812-941-5225 ext. 326
e-mail: cmcnabb@rauchinc.org

Appendix E

Internet Sites

Listed below are some Internet sites that may provide helpful information or links to resources for families of children with hearing loss. The list is a service to the readers of this booklet and does not constitute an endorsement of any particular site. **Always consult your child's own early intervention provider and physician before making any decisions.** ** The sites designated with an * may be good initial sites for parents beginning to learn about hearing loss and deafness.

Site	URL
<u>General Information</u>	
Audiologyinfo.com	http://www.audiologyinfo.com
Beginnings for Parents of Children Who Are Deaf or Hard of Hearing	http://www.ncbegin.org
Deaf base	http://www.deafbase.com
Deaf Resources Library	http://deaflibrary.org
Deafness/ Hard of Hearing	http://deafness.about.com/health/deafness/
Deafology	http://deafology.com
Ear Help.com	http://www.earhelp.com
Healthfinder	http://www.healthfinder.gov
Healthfinder espanol	http://www.healthfinder.gov/espanol
Hear It	http://www.hear-it.org
Hearing Health Magazine	http://www.hearinghealthmag.com
Homepage for Indiana's Early Childhood Community	http://129.79.180.15/calendar/date.lasso
Deaf Community Services	http://www.x-roads.org/dcs_fact_sheet.htm
Educational Resource Digest (communication choices)	http://www.ed.gov/databases/ERIC_digests
Internet Links for Deaf Hard of Hearing Resources	http://deafness.miningco.com/
Kid Source on Line	http://www.kidsource.com
Learning to Listen Foundation	http://www.LearningToListen.org
**Listen Up!	http://www.listen-up.org
**My Baby's Hearing	http://www.babyhearing.org
**Raising your deaf or hard of hearing child	http://www.raisingdeafkids.org
Searchwave	http://www.searchwave.com

Self-Help for Hard of Hearing	http://www.shhh.org
Sibling Support Project	http://www.seattlechildrens.org/sibsupp/
The Soundry	http://library.thinkquest.org/19537/Main.html
The Deaf Magazine	http://www.deaf-magazine.org
Where do we go from hear?	http://www.gohear.org

Organizations

Alexander Graham Bell Association for the Deaf	http://www.agbell.org
American Academy of Audiology	http://www.audiology.org
American Academy of Pediatrics Policy on Universal Newborn Hearing Screening	http://www.aap.org/policy/re9846.html
American Sign Language Teachers Association (ASLTA)	http://www.aslta.org/index.html
American Society for Deaf Children	http://deafchildren.org
American Speech Language Hearing Association	http://www.asha.org
Auditory Verbal International	http://www.auditory-verbal.org
Better Hearing Institute	http://www.betterhearing.org
Boystown Institute for Communication Disorders	http://www.boystownhospital.org
Center for Disease Control: Hearing Detection and Intervention	http://www.cdc.gov/ncbddd/ehdi
Educational Audiology Association	http://edaud.org
Hear Me Foundation	http://www.hearamefoundation.org
House Ear Institute	http://www.hei.org
Indiana First Steps Early Intervention System	http://www.state.in.us/fssa/first_step
Indiana School for the Deaf	http://deafhoosiers.com
John Tracy Clinic	http://www.jtc.org/index.htm
Listen Foundation	http://www.listenfoundation.org
League for the Hard of Hearing	http://www.lhh.org
Marion Downs National Center for Infant Hearing	http://www.colorado.edu/slhs/mdnc
National Association for the Deaf	http://www.nad.org

National Campaign for Hearing Health, Deafness Research Foundation	http://www.hearinghealth.net
National Center for Hearing Assessment and Management	http://www.infanthearing.org
National Information Center for Children and Youth With Disabilities	http://www.nichcy.org
National Information Center on Deafness	http://www.gallaudet.edu
National Institute on Deafness and Other Communication Disorders (NIDCD)	http://www.nidcd.nih.gov
National Parent Network on Disabilities	http://www.npnd.org
Oberkötter Foundation	http://www.oraldeafed.org
The EAR Foundation	http://www.theearfound.com
Voice for Hearing Impaired Children	http://www.voicefordeafkids.com/
<u>Technology</u>	
Advanced Bionics	http://www.cochlearimplant.com
Captioned Films and Videos	http://www.cfv.org
Closed Captioning Web	http://www.erols.com/berke
Cochlear Corporation	http://www.cochlear.com
Hear Now	http://www.leisurelan.com/~hearnow http://www.hearingaide.org
The Caption Center	http://main.wgbh.org/wgbh/pages/captioncenter/

Appendix F

Selected Books, Videos, and Resources

Catalogs are available from the following publishers:

ADCO
4242 South Broadway
Englewood, Colorado 80113
303-794-3928
e-mail: sales@adcohearing.com
website: www.ADCOhearing.com

A.G. Bell Catalog
3417 Volta Place NW
Washington, D.C. 20007
Phone: 202/337-5220
TTY: 202/337-5221
Fax: 202/337-8314
e-mail: info@agbell.org
Website: www.agbell.org

Butte Publications, Inc.
P.O. Box 1328
Hillsboro, OR 97123-1328
Phone/TTY: Toll Free: 866-312-8883 or Direct: 503-648-9791
FAX: Toll Free: 866-412-8883 or Direct: 503-693-9526
e-mail: service@buttepublications.com
www.buttepublications.com

T.J. Publishers Inc.
817 Silver Spring Ave.
Silver Spring, MD 20910
Tel: 301-585-4440
Fax: 301-585-5930
e-mail: TJPubinc@aol.com

Dawn Sign Press
6130 Nancy Ridge Drive
San Diego, CA 92121-3223
Toll Free: (800) 549-5350 (from within the U.S. and Canada)
Voice/TTY: (858) 625-0600
Fax: (858) 625-2336
e-Mail: info@dawnsign.com
Website: www.dawnsign.com

Harris Communications, Inc.
15155 Technology Drive
Eden Prairie, MN 55344
952-906-1180 Voice
952-906-1198 TTY
800-825-6758 Voice
800-825-9187 TTY
952-906-1099 Fax
e-mail: info@harriscomm.com
www.harriscomm.com

Sign Media
4020 Blackburn Lane
Burtonsville, MD 20866-1167
800-475-4756 Voice/TTY
301-421-0270 Fax
e-mail: info@signmedia.com
www.signmedia.com

Gallaudet University Laurent Clerc
National Deaf Education Center
800 Florida Avenue, NE
Washington, D.C. 20002-3695
800-526-9105
e-mail: products.clerccenter@gallaudet.edu
<http://clerccenter.gallaudet.edu/>

Books

This list includes publications by authors with a variety of viewpoints. It is not a complete listing of all books regarding hearing loss. Some books may be found in your local library or bookstores. Many of these books, as well as videotapes, can be purchased through the catalogues listed on the previous page. Some may be available through parent organization lending libraries. You may wish to ask your service providers for assistance in locating a resource.

*** The books designated with a ** may be good initial books for parents beginning to learn about hearing loss and deafness.*

Communication Options

Auditory-Verbal Therapy for Parents and Professionals, by Warren Estabrooks

The American Sign Language Handshapes Dictionary, by Richard Tennant and Marianne Gluszak Brown

Animal Signs-A First Book of Sign Language, by Debby Slier

Assessment and Management of Mainstreamed Hearing-Impaired Children, Principles and Practices, by ark Ross, Diane Brackett, and Antonia Branchia Maxon

Beginning with Babies: A Sharing of Professional Experience, by A. Phillips and E.B. Cole

**Choices in Deafness: A Parent's Guide to Communication Options, by S. Schwartz

Cochlear Implants for Kids, by Warren Estabrooks

Educating Deaf Children Bilingually, by Shawn Neal Mahshie

Educating and Raising a Deaf Child, by Marc Marschark

Educational Audiology for the Limited Hearing Infant and Preschooler, Third Edition, by Pollack, Goldberg, and Caleffe-Schneck

Everyone Here Spoke Sign Language, by Nora Ellen Groce

Facilitating Hearing and Listening in Young Children: Early Childhood Intervention Series, by C. Flexer

Fifty Frequently Asked Questions About Auditory-Verbal Therapy, edited by Warren Estabrooks

Foundations of Spoken Language for Hearing Impaired Children, by Daniel Ling

The Handmade Alphabet, by Laura Rankin

Handtalk, by Remy Charlip and Mary Beth Miller

Handtalk Zoo, by George Ancena and Mary Beth Miller

Hard of Hearing, by Parents and Families of Natural Communication, Inc.

I Want to Talk: A Child Model of American Sign Language Set, by H. Hosemann

Learning American Sign Language, by Tom Humphries and Carol Padden

Lipreading for Children, by George Haspiel

From Mime to Sign, by Gil Eastman and Martin Noretsky

Parent's Guide to Speech and Deafness, by Donald Calvert

Sesame Street Sign Language ABC, by Linda Bove

Sesame Street Sign Language Fun, by Linda Bove

Signs for Me: Basic Vocabulary for Children, by Ben Bahan and Joe Dannis

So Your Child Has A Hearing Loss: Next Steps for Parents, by AG Bell

Something to Talk About: Spoken Language Approaches for Children with Hearing Loss, by AG Bell

25 Ways to Promote Spoken Language, by Amanda Mangiardi

We CAN Hear and Speak! The Power of Auditory-Verbal Communication for Children Who are Deaf and Hard of Hearing, by Parents and Families of Natural Communication, Inc.

When your Child is Deaf: A Guide for Parents, by D. Luterman

Word Signs – A First Book of Sign Language, by Debby Slier

**You and Your Deaf or Hard of Hearing Child, by John Adams

General Reading

Breaking Silence, by Ferne Glick and Donald Pellman
Buddha's in Disguise: Deaf People of Nepal, by Irene Taylor
Clerc: The Story of the Early Years, by Cathryn Carroll
Deaf Heritage: A Narrative History of Deaf America, by Jack Gannon
Deaf in America: Voices from a Culture, by Carol Padden and Tom Humphries
Deaf Like Me, by Thomas Spradley and James Spradley
The Flying Fingers Club, by Jean Andrews
Hometown Heroes: Successful Deaf Youth in America, by Diane Robinette
I.D.E.A. Advocacy for Children who are Deaf or Hard of Hearing: A Question and Answer Book for Professionals and Parents, by Bonnie P. Tucker, Esq.
Journey Into the Deaf World, by Ben Bahan, Robert Hoffmeister, and Harlan Lane
Kid Friendly Parenting of Deaf and Hard of Hearing Children, by Daria Medwid and Denise Chapman Weston
Listening with Your Heart, by Heather Whitestone
Never the Twain Shall Meet: The Communications Debate, by Richard Winefield
Not Deaf Enough: Raising a Child Who is Hearing-Impaired, by Patricia Ann Morgan Candlish, M.L.S.
Our Forgotten Children: Hard of Hearing Pupils in the Schools, Third Edition, edited by Julia Davis
Parents In Action: A Handbook of Experiences with their Hearing-Impaired Children, by Grant B. Bitter, Ed.D.
Raising your Hearing-Impaired Child: A Guideline for Parents, by Shirley Hanawalt McArthur
Reading Between the Lips, by Lew Golan
Seeing Voices, by Oliver Sacks
The Secret in the Dorm Attic, by Jean Andrews
Tomorrow Dad will Still be Deaf and other Stories, by Bonnie Kraft
A Very Special Friend, by Dorothy Hoffman Levi
The Week the World Heard Galludet, by Jack Gannon
When the Mind Hears, by Harlan Lane
Yes, You Can Heather! The Story of Heather Whitestone, Miss America, by Daphne Gray

Videotapes

This list includes publications with a variety of viewpoints. It is not a complete listing of all videotapes regarding hearing loss. Some videotapes may be obtained through your local library or bookstores. Many of these videotapes, as well as books, are available through the catalogues listed at the beginning of this appendix or through Internet sites listed in appendix E. Some may be available through parent-organization lending libraries. You may wish to ask your service providers for assistance in locating a resource.

Communication Options

American Sign Language ABC Stories, Sign Media, Inc.
Bravo ASL! Beginning American Sign Language Video Course, Lessons 1-15, Sign Enhancers, Inc
Deaf Heroes, Northern Sign Theatre, 528 Hennepin Ave. #306, Minneapolis, MN 55403
DeafBlind Getting Involved: A Conversation, Sign Media, Inc
DeafBlind Overview and Introduction, Sign Media, Inc.
Do You Hear That?, VOICE for Hearing Impaired Children in cooperation with Alexander Graham Bell Association for the Deaf
Dreams Spoken Here, Oberkotter Foundation Film Project, 1-800-ORALDEAF,
P.O. Box 50215, Palo Alto, CA 94303-9465
I Can Hear!, Natural Communication, Inc.
I Can Hear II, Natural Communication, Inc.
Overview and Introduction of Deaf-Blind, Sign Media, Inc
Poetry in Motion, Sign Media, Inc.
Read it Again and Again (with book), Gallaudet University Press
Read with Me – Sharing the Joy of Storytelling with your Deaf Toddler, Harris Communication
Read with Me – Stories for your Deaf Preschooler, Harris Communication
Reading to Deaf Children & Learning from Deaf Adults (with book), Gallaudet University Press
Sign-Me-A-Story by Linda Bove from Sesame Street, Harris Communication
Sign With Me – Building Concepts, Boys Town National Research Hospital, 555 North 30th Street,
Omaha, NE 68131
Sign With Me – Building Conversations, Boys Town National Research Hospital, 555 North 30th Street,
Omaha, NE 68131
Sign With Me – Positive Parenting, Boys Town National Research Hospital, 555 North 30th Street,
Omaha, NE 68131

Technology

Clarion: Link Between Silence and Sound, Advanced Bionics Corporation, 1-800-678-2575,
12740 San Fernando Road, Sylmar, CA 91342
Cochlear Implant –The Deaf Community View, Dawn Sign Press
Independence through Telecommunications: A Guide for Parents of Deaf and Hard of Hearing Children,
Gallaudet University Press
Indiana Relay Video, Sprint Company
Nucleus 24 Contour, “The Shape of Things to Come”, Cochlear Corporation, 61 Inverness Drive, Suite 200,
Englewood, Colorado 80112
Phonak Video Focus: FM Systems for Children: Rationale, Selection & Verification Strategies, Phonak, Inc.,
1-800-777-7333, 850 Diehl Rd., Naperville, IL 60566
Phonak Video Focus: Pediatric Hearing Assessment, Phonak, Inc., 1-800-777-7333, 850 Diehl Rd.,
Naperville, IL 60566
Phonak Video Focus: Pediatric Hearing Instrument Fitting, Phonak, Inc., 1-800-777-7333,
850 Diehl Rd., Naperville, IL 60566
TWINS: A Cochlear Implant Study, Cochlear Corporation, 61 Inverness Drive, Suite 200,
Englewood, Colorado 80112
Using Your TTY/TDD, Harris Communication

Appendix G

Glossary

ABR/Auditory Brainstem Response: A non-invasive test that measures responses to auditory stimuli through the brainstem level. The test shows whether sound is being detected and is often used for assessing infants and other difficult-to-test individuals. AABR (automated auditory brainstem response) is an adapted test methodology that is often used for screening newborns. This type of test can also be referred to as BAER, BSEP, and BSER.

Accommodations: Services or equipment to which a student with a disability is legally entitled to receive for the provision of an appropriate and equal education.

Acoustics: Pertaining to sound. Also may pertain to the sense of hearing, or the science of sound. The term is often used to describe the sound quality in a room.

Acoustically Modified Earmolds : Specifically shaped earmolds that help shape the frequency response and change the output of the hearing aid (for example: Libby horn shape helps improve high-frequency amplification).

Acquired Hearing Loss: Hearing loss that is not present at birth. Also may be called adventitious loss.

Aided Thresholds : Represented by an “A” on the audiogram, they are the softest sounds that a person can hear while wearing hearing aids.

Air Conduction: Sounds that travel through the air from a sound source, earphone or loud speaker, to the ear canal, eardrum, travel through the middle ear, inner ear and on the brain. Air conduction thresholds are represented by “O” for the right ear and “X” for the left ear on the audiogram.

Advocacy: Refers to the role parents or guardians play in developing and monitoring their child’s educational program or working to make sure other needs are met by appropriate agencies. Advocating means knowing what your rights are by law and actively participating in the decision-making process to assure that services are delivered in line with your goals for your child’s development and education.

Americans With Disabilities Act (ADA): A law that prohibits discrimination against people with disabilities, including deaf and hard of hearing individuals. The four sections of this law cover employment, government, public accommodations, and telecommunications.

American Sign Language (ASL): ASL is a visual/spatial language used by individuals in the United States. ASL is a complete language with its own vocabulary, grammar and syntax. It has evolved in the Deaf community over the last 200 years.

Amplification: The use of hearing aids or other electronic devices to increase the loudness of a sound so that it can be more easily received and understood.

Article 7: Indiana State Board of Education Special Education rules for implementing IDEA.

Assistive Communication Device: Any and all types of electronic devices including hearing aids, FM systems, infrared systems, tactile aids, special inputs for the television or radio, amplified/visual alarm systems, and teletypewriters that are used by people with hearing impairments or deafness. Some of these devices might also be referred to as assistive listening devices (ALDs).

Atresia: Absence or complete closure of the ear canal, causing a conductive hearing loss.

Attenuation: Reduction or decrease in magnitude; to make a sound softer or quieter.

Audibility: The ability to hear the sounds or spoken speech but not necessarily being able to tell one speech sound from another.

Audiogram: A graph on which a person’s auditory results are plotted. The frequencies (pitch) are on the horizontal axis and the intensities (volume) are vertical. The top of the audiogram represents soft intensity and the bottom of the graph indicates greater loudness needed to perceive sound. Results toward the bottom of the graph indicate poorer hearing ability.

Audiological Assessment: A hearing test which may include a combination of pure tone thresholds, impedance measurements for middle ear function (immittance or tympanometry), speech recognition, and speech discrimination measurements. ABR and otoacoustic emissions testing may also be included. Together, these measurements are used to describe the type and degree of hearing loss. This can also mean a test in the aided condition to determine the benefit of amplification and might be called an aided assessment.

Audiologist: A person with a master's degree or doctorate degree in audiology who is a specialist in testing hearing and working with those who have a hearing loss. The person holds a state license and certification from the American-Speech-Language-Hearing Association (and in the future, perhaps from the American Academy of Audiology). The person may have CCCA or FAAA after the signature block. An audiologist's evaluation often results in recommendations about the appropriate hearing aids and referrals to physicians and/or other professionals.

Audiometer: An instrument that produces calibrated pure-tone or speech stimuli for the assessment of hearing abilities.

Auditory Nerve: The eighth (VIII) cranial nerve composed of the auditory and vestibular branches that carry auditory signals from the nerves in the inner ear to the brainstem.

Auditory Neuropathy/Auditory Dysynchrony: A condition in which the cochlea appears to function normally but there is a problem with the main auditory pathway so that sound cannot be processed normally by the brain. Auditory neuropathy can be described as a lack of synchronous activity in the auditory nerve. Audiological tests often show normal Otoacoustic Emissions (OAE) and an abnormal or missing Auditory Brainstem Response (ABR). A child with auditory neuropathy may appear to hear one day and not hear the next. These children often require a different management approach to their auditory and communication problems, than children with peripheral hearing loss.

Auditory-Oral: A term that is sometimes used when referring to individuals with hearing loss and deafness who talk and do not use sign language. Some educational programs that emphasize the development of spoken language (no matter what the method) are simply referred to as "oral" programs.

Auditory Training: The process of training a person's residual (the amount of hearing which is present) hearing in the awareness, identification, and the interpretation of sound.

Auditory System: Refers to the entire structure and function of the ear.

Auditory-Verbal Therapy: Emphasizes the use of residual hearing (usable remaining hearing) to learn spoken communication. Therapy is individualized with parent /caregivers participating to learn how to develop their child's spoken communication skills through their natural interactions.

Aural Habilitation: Training that helps a person with hearing loss to make the most productive use of residual hearing.

Background Noise: Any unwanted sound that may or may interfere with listening.

Behavioral Observation Audiometry: An audiological assessment which assesses a baby's or young child's behaviors (startle, eye movement, head movement, sucking cessation) in response to calibrated sound by means of observation of those responses. Stimuli may include warble and pure tones, speech and/or calibrated noisemakers/types of noise.

Bilateral: Involving both sides; hearing loss in both ears.

Bilingual/Bicultural: Being fluent in two languages and/or membership in two cultures; for a deaf child this generally implies learning ASL, and learning English, and participation in hearing and Deaf cultures. Commonly referred to as BI-BI.

Binaural: Hearing with both ears; use of hearing aids in both ears simultaneously.

Bone Conduction: Sound received via the bones of the skull.

Central Auditory Processing Disorder: Difficulty with the perception or understanding of sounds especially in the presence of background noise or dichotic (different speech signals in each ear at the same time) signals. The primary source of the problem is in the central auditory nervous system (brain stem or cortex) not necessarily in the peripheral hearing system (outer, middle or inner ear). Children who have CAPD will often have the similar behaviors as attention deficit disorder and problems in reading, spelling, and verbal instructions, etc.

Certified Auditory-Verbal Therapist (Cert. AVT): Audiologist, speech and language pathologist, or teachers of children with hearing impairment who have obtained additional supervised training beyond their typical degrees and who have passed a certification examination for auditory-verbal therapist; a registry of Cert. AVTs may be obtained from Auditory-Verbal International, Inc. (AVI).

Cerumen: An oily glandular substance found in the outer ear canal; sometimes it becomes hard and can block the ear canal and the transmission of sound (impacted). Also called earwax.

Children's Special Health Care Services (CSHCS): A program to help children age birth to 21, get medical treatment for specific chronic, medical conditions, including hearing impairment. Families must meet financial and medical eligibility requirements. Information about this program can be obtained by calling 1-800-475- 1355.

Chronological/Adjusted Age: Chronological age is the baby's age based on date of birth. If a baby was born prematurely, his or her development is measured in terms of adjusted age. Adjusted age takes into account the time between the premature birth and the actual due date of a full term pregnancy. Using this calculation gives a more accurate picture of what the baby's developmental progress should be.

Closed Captioned: Typed words on TV or video, which allow the viewer to read the spoken words. Closed refers to the special decoding device to see the words.

Cochlea: This is the end organ of hearing located in the inner ear. Damage to the cochlea is usually irreversible.

Cochlear Implant: An electronic device surgically implanted to stimulate nerve endings of the inner ear (cochlea) in order to receive and process sounds. A cochlear implant system also includes external components.

Cognitive: Refers to the ability to think, learn, and remember.

Conductive Hearing Loss: Dysfunction of the auditory mechanism in the outer or middle ear. Conductive hearing loss is often medically treatable or correctable and is commonly caused by otitis media (fluid in the cavity of the middle ear which is normally filled with air).

Congenital Hearing Loss: Hearing loss that is present at birth or associated with the birth process; occurring within the first few days of life.

Connexin 26 (Cx26): The most clinically significant gene involved in deafness, which produces a protein that facilitates the transfer of molecules involved in the transmission of sound within the inner ear. Mutations in Cx26 account for a large proportion of recessively inherited non-syndromic hearing loss in children.

Coupled: The attachment or connection of one object to another; a hearing aid to an assistive listening device.

Cued Speech: A visual communication system that, in English, uses eight handshapes in four locations ("cues") in combination with mouth movements to represent the various sounds of spoken English.

Deaf: When capitalized (Deaf), it refers to the cultural heritage and community of deaf individuals. Communication within the Deaf culture is primarily via signed language. When the term deaf is used by medical or audiology professionals, they are referring to a profound hearing loss.

Deaf/Blind: A combined loss of vision and hearing that significantly impacts the educational process.

Deaf Community: The Deaf community is comprised of individuals, both deaf and hearing, who respond to particular community goals. The Deaf community in the United States may have a wide range of perspectives on issues; however, being deaf is viewed as a cultural difference rather than a disability.

Deaf Culture: A view of life manifested by mores, beliefs, artistic expression, understanding and language (ASL) particular to Deaf people.

Decibel: (dB) The unit of measurement for the perceived loudness of sound. The higher the dB, the louder the sound; the poorer the hearing. On an audiogram, dB is the vertical axis.

Direct Audio Input (DAI): Direct transmission of a sound signal into a hearing aid without the sound being changed in any way. Many hearing aids are now equipped with DAI for use with assistive technology devices such as personal FM systems.

Disability: A loss of function or impairment of a whole or parts of body systems.

Discrimination: The ability to know one sound as different from another. The ability to distinguish among sounds of different pitches, durations or loudness.

Distortion: Reduction or addition to a sound, decreasing its original form.

Dri-Aid Kit: A device that removes moisture from a hearing aid. It may be a small plastic container or bag with a silicone gel material inside. By placing the hearing aid inside, usually overnight, the gel acts as a dehumidifier to remove moisture.

Ear: The organ used for hearing. The ear has three main parts: the outer ear, the middle ear, and the inner ear.

Ear Canal: The canal between the outer ear (pinna) and the eardrum.

Eardrum: Part of the ear, which separates the outer ear from the middle ear. Also known as the tympanic membrane; part of the ear that can be ruptured.

Ear Mold: A custom made plastic or vinyl piece that fits into the ear to connect a hearing aid to the user.

Educational Audiologist: A licensed, certified audiologist with additional training in educational concerns and a school services license from the Professional Standards Board; usually employed by a school system.

Educational Interpreter: A person who performs conventional interpreting of verbal language to a signed system who also has special skills for working in the educational environment. This term includes sign language interpreters and oral interpreters.

Electrophysiologic Tests: Tests that measure the electrical activity of the brainstem and/ or brain in response to sound. These tests do not require a purposeful response from the patient and are often referred to as objective tests.

ENT: A medical doctor who specializes in the care and treatment of the Ears, Nose, and Throat.

Environmental Sounds: Non-speech sounds that occur in the environment such as a siren, the telephone ringing, the doorbell, water running or a train whistle.

Etiology: The specific cause of a hearing loss.

Eustachian Tube: A tube that connects the middle ear with the throat and allows air to move back and forth into the middle ear. This tube can become swollen closed and cause middle ear dysfunction.

Expressive Language: The use of words, signs or conventional symbols to express one's thoughts, needs, feelings and ideas to others.

Feedback (acoustic): A high-pitched squeal from a hearing aid most commonly caused by an improper fit or placement of the earmold. Feedback may also be caused by earwax in the earmold, a crack in the earmold tubing, earhook or hearing aid casing. Additionally feedback may occur when an object is very close to the hearing aid such as when wearing a tight fitting hat.

Fingerspelling: A way of manually representing word and sentences from a spoken language, that has a written form, by using a separate handshape for each letter of the alphabet in that spoken language.

First Steps Program: Indiana's early intervention system mandated by the federal Individuals with Disabilities Education Act (IDEA) amendments of 1997-Part C. Children birth to three years of age who have developmental delays, medical conditions likely to result in a delay or who are at risk of a developmental delay because of one of eight identified risk factors are eligible for a variety of early intervention services. There is no financial eligibility requirement for this family centered, comprehensive, neighborhood based system of services provided at a minimal cost to families.

FM System: An assistive listening device worn by the speaker to amplify his or her voice and transmit it directly into the listener's ears via a special receiver on the listener's hearing aids. The device reduces the problem of background noise interference and the problem of distance between the speaker and the hearing impaired listener. FM stands for **F**requency **M**odulation of radio waves.

Frequency: The number of vibrations per second of sound. Frequency, expressed in Hertz (Hz) determines the pitch of a sound. On an audiogram, frequency is the horizontal axis. Frequencies typically shown on an audiogram are 250, 500, 1000, 2000, 4000, and 8000 Hz.

Genetic Counseling: A medical specialty that helps families understand the cause of a child's disability, the chance of recurrence in other relatives or future children, and whether the condition is part of a syndrome that should be watched for other medical complications.

Habilitation: To bring performance or functioning to a level as near typical or normal as possible.

Hard of Hearing: A hearing loss, either permanent or fluctuating, which adversely affects an individual's ability to detect and decipher some sounds. The term is preferred over hearing impaired by the deaf and hard of hearing communities to refer to individuals who have some hearing loss, but also use residual hearing.

Hearing Aid: An electronic device that conducts and amplifies sound to the ear.

◇ all-in-ear: all components fit into the ear (like an earmold).

◇ behind-the-ear: a small half-moon shaped device worn behind the pinna along with an ear mold that channels sound into the ear.

◇ body aid: a small box worn on the body, which is channeled to the ear with a cord and earmold.

◇ canal: all components fit into the ear canal with only the small faceplate showing.

◇ completely-in-canal: fits into the ear canal so that it is invisible.

◇ bone-conduction: a behind the ear (or body style) aid coupled with a vibrator that is fit to the head right behind the pinna (mastoid process) to transmit sound vibrations to the cochlea via the bones of the skull. This is used for individuals with a conductive hearing loss who cannot wear any of the hearing aid types noted above.

Hearing Aid Stethoscope: A device that allows one to listen to the output of a hearing aid or ALD to check sound quality and functioning.

Hearing Impaired: A term used to describe individuals who are acoustically disabled/ auditorially deficient, for whom the primary receptive channel of communication is hearing even with deficits. Hard of hearing may be a preferred term.

Hearing Loss: The following hearing levels (HL) are typically characterized as follows:

Normal Hearing 0-20 dB HL

Mild 21-40 dB HL

Moderate 41-55 dB HL

Moderate/Severe 56-70 dB HL

Severe 71-90 dB HL

Profound 91 dB HL or greater

Hearing Screening: An audiometric procedure to assess the ability to hear a set range of intensities and frequencies; separates those whose hearing is within the normal range from those who do not respond and are in need of further assessment. Failure to respond to a screening protocol does not mean a hearing problem exists, but that there should be further evaluation.

Hertz (Hz): A measurement of frequency equal to one cycle per second. Named after German physicist H.R. Hertz.

Huggies: The brand name of plastic-ringed device designed to "hug" the hearing aid to the ear. Popular for infants and toddlers whose ears may be too small to hold the hearing aid snugly in place.

IDEA - Individuals With Disabilities Education Act: Previously known as Public Law PL 94-142, PL 99-457, PL 101-476, and PL 105-17, recently reauthorized and amended in 1997, this federal legislation guarantees that all children with disabilities receive a free, appropriate, public education (FAPE). **Part C** of the legislation provides for the development and implementation of early intervention systems delivering community based, coordinated, comprehensive services for children, who have developmental delays, age birth to three years.

Part B provides preschool education and related services for children, who have disabilities, age three to 5 years.

Inclusion: Often used synonymously with "mainstreaming," this term refers to the concept that students with disabilities are integrated and included in the educational setting with their non-disabled peers to the maximum extent possible.

Individualized Educational Plan (IEP): A team-developed, written program, which identifies educational goals and objectives for addressing the educational needs of a school-aged student with a disability. An IEP for a child with hearing loss should take into account such factors as 1) communication needs and the child's and family's preferred mode of communication, 2) linguistic needs, 3) severity of hearing loss, 4) academic progress, 5) social and emotional needs, including opportunities for peer interaction and communication, and 6) appropriate accommodations to facilitate learning.

Individualized Family Service Plan (IFSP): A written plan developed by parents or guardians with input from a multi-disciplinary team. It addresses 1) family strengths, needs, concerns, and priorities 2) identifies support services available to meet those needs and 3) empowers the family to meet the developmental needs of their infant or toddler with a disability.

Impedance (immittance) Testing: An objective measure of middle ear function, not hearing sensitivity, which may include tympanometry and/ or acoustic reflex. Sometimes referred to as a measurement of how well the eardrum moves.

Intelligibility: The ability to hear and understand speech. Often refers to the quality of speech production; how well others are able to understand the speech of the talker.

Inner Ear: The innermost part of the ear composed of the cochlea and the semi-circular canal (end organ of balance). Damage to the inner ear results in a sensorineural type of loss.

Intensity: The loudness of a sound measured in decibels (dB); vertical axis on the audiogram.

Interpreter: A person who facilitates communication between hearing and deaf or hard of hearing person by translating between spoken English and American Sign Language or another language.

Least Restrictive Environment: A basic principle of Public Law 105-17 (IDEA) which requires public agencies to establish procedures to ensure that to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled. Special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that the education in regular classes, even with the use of supplementary aids and services, cannot be achieved satisfactorily.

Lipreading: See speechreading.

Localization: The ability to understand where a sound originates or is coming from.

Mainstreaming: The concept of educating students with disabilities with their non-disabled peers to the maximum extent possible, when appropriate to the needs of the child with a disability. Mainstreaming is one point on a continuum of educational options. The term is sometimes used synonymously with “inclusion.”

Masking: A procedure often used in hearing testing where a static-like noise is presented to the non-test ear through headphones to keep it from responding to test stimuli.

Medical Clearance: Statement or clearance from a doctor specializing in disorders and diseases of the ear, that a particular hearing loss is not medically treatable. Amplification devices will not harm the patient’s ear and may be fit.

Microtia: An incompletely formed outer ear. Literally microtia means “small ear”. Maybe involve one or both ears. The outer portions of the ear may be unusually small, incompletely formed or missing.

Middle Ear: Located between the outer ear and the inner ear. It contains three tiny bones (ossicles) and is an air-filled cavity. It is connected to the throat by the Eustachian tube. The middle ear can become filled abnormally with fluid, which, in turn, may cause temporary hearing loss.

Mixed Hearing Loss: A hearing loss that is partially sensorineural and partially conductive in nature.

Monastral Amplification: The use of one hearing aid.

Multidisciplinary Assessment and Evaluation: The assessment and evaluation of a child by qualified persons representing two or more disciplines or professions (i.e., a speech-language pathologist and an audiologist). The child’s development is evaluated to determine if there are any delays or conditions that might indicate the need for special services.

Native Language: The language of the home or family; the native language of a child who is deaf with deaf parents is often ASL.

Open Captioned: The same as closed captioned (see Closed Captioned) except there is no need for a special decoding device to see the printed text.

Otitis Media: Fluid in the middle ear (normally an air-filled cavity). This fluid may cause fluctuating hearing loss and, therefore, delays in speech and language development for young children who experience otitis media with hearing impairment. Fluid can be present with or without infection and may cause temporary and fluctuating degrees of hearing loss; otitis media can turn into a permanent hearing problem without proper medical attention.

Otoacoustic Emissions (OAE): A passive audiological test that verifies cochlear activity. It is often used as a screening tool or to evaluate infants suspected with hearing loss. A probe is placed in the ear canal to measure auditory response.

Otolaryngologist (ENT): A physician who specializes in medical problems of the ear, nose, and throat. This specialist provides diagnosis and approval for hearing aids.

Otologist: A medical doctor who specializes in diseases of the ear.

Outer Ear: The pinna (part of the ear outside the head) and the ear canal.

Part B: Part B is the section of Public Law 105-17 (IDEA) that refers to preschool education and related services available in the public schools to eligible children ages three years through five years.

Part C: This is the section of Public Law 105-17 that refers to early intervention services available to eligible children from birth to three years of age and their families.

Peri-Lingual Hearing Loss: Refers to hearing loss acquired while learning a first language.

Pidgin Signed English/Signed English (PSE): A visual sign system using many ASL signs in English word order. However, often many words are not signed (a, the, an, to, etc.) as well as English word endings (-ed, -ing, -ment, -tion, etc) are not signed. PSE is often used by teachers or individuals in environments mixed with hearing and deaf children.

Pitch: The perception of frequency; sound is commonly thought of as high or low in pitch.

Play Audiometry: The audiologist teaches a child to respond to sound with some type of action such as dropping a block in a pail (peg into pegboard, ring on peg) when he/she hears a sound.

Post-Lingual Hearing Loss: Refers to hearing loss acquired after learning a first language.

Pragmatics: Refers to how a language is used.

Pre-Lingual Hearing Loss: Refers to hearing loss, which is congenital or acquired before acquisition of language.

Progressive Hearing Loss: Hearing that worsens over time.

Pure Tone: A tone, used in testing hearing that has energy at only one frequency.

Pure Tone Average: A number resulting from averaging the thresholds at 500Hz, 1000 Hz and 2000 Hz.

Real-Ear Measurements: An audiological test that measures the actual output of the hearing aid while placed in the ear. This test uses a probe microphone that is placed into the ear canal along with the ear mold and hearing aid coupling. It assesses how effectively sound is being amplified by the hearing aids in the ear. It is considered a very important measurement because everyone's ear canals are shaped differently, and this will affect how a hearing aid functions.

Receptive Language or Communication: Words and concepts one understands.

Rehabilitation: To restore to normal or as satisfactory a status as possible original function.

Residual Hearing: The amount of measurable, usable hearing a person has that may be amplified.

S.E.E. –Signing Exact English: A sign system in which all words of English are signed in English word order. Number, person and tense have signed grammatical markers to replicate spoken English.

Sensorineural: A type of hearing impairment caused by damage that occurs to the inner ear (cochlea). Sensorineural hearing loss is usually irreversible and permanent.

Signal to Noise Ratio or Speech to Noise Ratio (SN ratio or SNR): Refers to the relationship between the signal or speech that a listener wants to hear and the noise that a listener does not want to hear. For example: a classroom needs to have an acceptable SNR, that is the teacher's voice must be comfortably louder than the noise in the room, for effective learning to take place.

Simultaneous Communication: Talking and signing at the same time.

Sound Booth: An acoustically treated room where diagnostic hearing tests are should be performed to obtain accurate results.

Soundfield Tests: A type a hearing test, within a sound booth, in which sound is presented via loudspeakers (as opposed to through earphones) into the room- the "soundfield". Aided, that is while a person is wearing hearing aids, testing is performed in a soundfield.

SPOE – System Point of Entry: Contact for information and entry into Indiana First Steps Early Intervention Program. Each county has a designated SPOE. To find the SPOE in your county or area call 1-800-441-STEP (Indiana residents only) or (317) 232-1144.

Special Education: Specially designed educational instruction program provided to meet the individual needs of qualified children with disabilities.

Speech Awareness Threshold (SAT): This is the faintest level at which a person detects or is able to just hear, speech 50% of the time. SAT is measured during audiological evaluation with and/or without hearing aids.

Speech Banana: On an audiological graph measured in decibels and frequencies, the area wherein most conversational sounds of spoken language occur. Sometimes called the “**speech zone**” because of the shape this area depicts on the graph. The purpose of wearing hearing aids or a cochlear implant is to amplify sound into the speech zone.

Speech Reception or Recognition Threshold (SRT): this is the softest level at which a person can understand speech 50% of the time. SRT is measured during audiological evaluation with and/ or without hearing aids.

Speech Reading: The interpretation of lip and mouth movements, facial expressions, gestures, prosodic and melodic aspects of speech, structural characteristics of language, and topical or contextual clues.

Speech-Language Pathologist: A master’s or doctorate level trained professional who works with individuals in the areas of speech and language. Speech language pathologists are certified by ASHA and will typically use the initials CCC-SLP as a credential after their signature.

Syntax: Defines the word classes of language (i.e., nouns, verbs, adjectives, etc.) and the rules for their combination (i.e., how words occur in order).

Tactile Aids: A type of assistive communication device that emits a vibration or “tactile” signal to indicate the presence of sound. It is worn on the body and triggers the sense of touch or feeling to draw attention to information that cannot be heard by the individual with hearing loss. These devices are also referred to as vibrotactile aids.

Teacher of the Deaf: A teacher licensed by the Professional Standards Board in Indiana, in the education of deaf and hard of hearing children, trained to address the overall development of children and with expertise in the various communication issues of deaf and hard of hearing children.

Telecoil and Telecoil Switch: A series of interconnected wire loops in a hearing aid that respond electrically to a magnetic signal. An external control on a hearing aid activates a telecoil that picks up magnetic energy from a telephone or a magnetic loop of an ALD. It is often beneficial for children to have hearing aids equipped with a telecoil.

Telecommunication Devices for the Deaf (TDD): Originally and often still referred to as TTY (teletypewriters), these electronic devices allow the deaf and hard of hearing to communicate via a text telephone system. This term appears in ADA regulations and legislation.

Threshold: The softest level of sound an individual can hear 50% of the time. This term can be used in reference to speech or pure tones.

Total Communication (T.C.): A philosophy of communication that involves a sign system used with spoken words and any other method (sign, mime, speech, pictures, etc.) of conveying information.

Trouble-Shooting a Hearing Aid or Assistive Listening Device: Performing a variety of visual inspections and listening checks to determine a cause for a malfunction and the need for professional repair.

Tubes- Pressure Equalization (P.E.) or Tympanostomy Tubes: Tiny ventilating tubes surgically placed through the eardrum to replace a malfunctioning Eustachian tube in allowing ventilation of the middle ear space.

Tympanic Membrane: Eardrum.

Tympanogram: A pressure test that indicates the function of the ear canal, eardrum, Eustachian tube, and middle ear. It measures how air travels through the outer and middle ears and can indicate dysfunction of these parts of the ear. It does not measure hearing ability.

Unilateral Hearing Loss: A hearing loss in one ear only.

Vestibular System: System in the inner ear that regulates balance. Specifically, it coordinates changes in head position, acceleration and deceleration, and gravitational effects.

Vibrotactile Device: See Tactile Aids